DOCUMENT RESUME

ED 063 486 VT 015 465

AUTHOR	Engelhardt, David F.
TITLE	Potential for Occupational Education or Career Development Programs in Two School Systems.
INSTITUTION	Engelhardt and Engelhardt, Inc. Purdy Station, New York.
PUB DATE	Nov 71
NOTE	90p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Career Education; *Curriculum Development; *Curriculum Evaluation; Educational Needs; *Program Development; Student Needs; *Vocational Development; Vocational Education

ABSTRACT

This document contains excerpts from two larger studies illustrating how two communities have approached problems of bias and neglect in the occupational education area. The first series of excerpts come from a curriculum study conducted in an affluent suburb where a high motivation for college preparatory work exists but not for occupational programs. Findings from the curriculum study are provided for the areas of: (1) occupational education, (2) industrial arts, (3) home economics, and (4) business education. The second series of excerpts come from an appendix of a school consolidation survey conducted in a rural area where transition from traditional vocational agricultural programs to more "modern" courses was being contemplated. Results relating to the need for vocational education, philosophy, educational facilities, recommended courses, and implementation strategies are discussed. (SB)

ED 063486

POTENTIAL FOR OCCUPATIONAL EDUCATION OR CAREER DEVELOPMENT PROGRAMS IN TWO SCHOOL SYSTEMS

DAVID F. ENGELHARDT

SELECTIONS FROM THE FOLLOWING SURVEYS:

CURRICULUM STUDY: CHERRY HILL, NEW JERSEY
NOVEMBER 1971

SCHOOL CONSOLIDATION SURVEY:
IREDELL COUNTY, MOORESVILLE, STATESVILLE, NORTH CAROLINA
JUNE 1970

Engelhardt and Engelhardt, Inc. ◆ Educational Consultants
PURDY STATION, NEW YORK 10578

PREFACE

In this volume are two excerpts from larger studies, one a curriculum study (which accompanied both management and school building needs studies) and another which was a regionalization study. Because these sections are lifted out of context, some remarks may seem unrelated to the chapter headings. However, the material in these chapters may have something to contribute in showing how two types of needs assessments have tackled problems of bias and neglect in the occupational education area.

The communities are not at all alike. Cherry Hill, once a rural community, is now an affluent suburb with suburban office complexes. A high motivation for college preparatory work exists. The community did not exhibit a strong desire for occupational programs.

Iredell County, at the crossroads of interstate highways and near a metropolitan center, was still highly rural at the time of the survey. Suburban development was incipient. A transition for vocational agriculture programs to more "modern" courses was being contemplated. The consultants found an excellent base for occupational education in the exceptional vocational agriculture program.

The selections include a wide range of content from philosophical thought to ideas for implementing a curriculum given the specific situations of these two school systems.

David F. Engelhardt, Ed.D.
Educational Consultant
Engelhardt and Engelhardt, Inc.
April 1972

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

Chapters from the

CURRICULUM STUDY FOR

CHERRY HILL PUBLIC SCHOOLS
Cherry Hill, New Jersey

November 1971

XIV OCCUPATIONAL EDUCATION

XV INDUSTRIAL ARTS AND VOCATIONAL COURSES

XVI HOME ECONOMICS

XVII BUSINESS EDUCATION

XIV

OCCUPATIONAL EDUCATION

Although Cherry Hill does not have an occupational education department as such, it is important that the organization of the Related Arts and Business departments be examined with a curricular rationale. Among other objectives, these two departments deal with training and experience for immediate employment after school and preparation for community or technical colleges. Actually, all departments can act as occupational testing grounds for interest and abilities.

There is a serious need in Cherry Hill for a Director of Occupational Education for the entire system; major policy setting and implementation must be coordinated among schools. This should probably be a staff position in the office of the Assistant Superintendent-Academic Affairs. Such a director would work with the community's advisory councils, supervise all cooperative training programs, assess labor market forecasts, arrange guidance programs and field trips, direct guidance research and follow-up studies, write proposals for federal aid, serve as liaison with the county vocational school, arrange interdepartmental programs (including those for special education students), and supervise guidance and placement activities for individual students in cooperation with the Department of Labor. This person would handle liaison with various federal and state agencies.

Despite the increase of leisure time, occupations utilize a very large part of our working hours. Furthermore, an individual's occupation often influences his

aspirations and can limit time available for leisure-time activities as diverse as reading, sports, or participation in government. Even with awareness of the importance of occupational choices (often made unwittingly even when a college is chosen), parents and schools have had few resources on which traditional guidance advice can be based. In fact, if the student receives guidance only from those who have never worked in the trades, manufacturing, or service industries, the student may never have a realistic idea of what it means to choose any occupation but a profession. It appears that schools (rather than families) are best prepared to mobilize, under new laws and spirit, the resources needed to allow students the opportunity to make valid career choices. Public elementary and secondary education should pay attention to such an essential facet of our life as our future occupation. In this sense, occupational education involves all choices in a school's curriculum.

Aside from protecting an individual from an unwise choice made in ignorance, schools also must serve the society which created the educational system. There is serious doubt that our nation needs an unlimited number of college graduates. Salaries may reflect the need for certain occupations. Apart from a few highly paid professions, college men and women often receive lower salaries than skilled workers. If one knows many skilled workers, one must admit that the individual does not have to go to college for a fulfilled life with challenge, respect, and moderate income.

Recent layoffs of engineering and scientific personnel have further supported the theory that too many chiefs and too few Indians may cause serious economic

consequences.[1] The issue has aroused significant challenges to manpower programs from Washington in regard to sponsorship of educational financing and propaganda for attending college.

Wolfle and Kidd reflecting on doctoral programs are typical of those who wish some occupational guidance based on goals of the society (also for the good of the individual):

> Looking to the future, however, we see little merit in the argument that society should finance doctoral-level training for everyone with the necessary ability. (At any given level of support, we take for granted the policy that ability alone should govern access to graduate education.) The demand for the product should be a major determinant of decisions, and we see the prospective market as justifying some restraint on the output of doctorates.[2]

An oversupply of doctoral-level job applicants causes ripples throughout science and technology. A person with only a master's degree often will compete poorly with an unemployed Ph.D. for a job. What happens to Ph.D's. is an indication of what may happen all through the professional degree ladder.

Grant Venn has summarized the feeling of new respect for jobs not requiring college degrees:

---

1 Examples of such articles are:
   a. "Route 128: Jobless in a Dilemma about Politics, Their Professions," Science 172: 1116, June 11, 1971.
   b. Frederick E. Terman, "Supply of Scientific and Engineering Manpower: Surplus or Shortage?", Science 173: 399-405, July 30, 1971.
   c. Dael Wolfle and Charles V. Kidd, "The Future Market for Ph.D's.," Science 173: 784-793, August 27, 1971.

2 Ibid., pp. 791-792.

> Probably the greatest problem we have in education today is the belief that a college degree or even a few months in college will automatically be better than any other possible experience. This simply isn't true for everyone. In fact, many of our most able and academically talented are asking if it is true even for them. ...College is no guarantee of a happy career, a successful life, or even a mark of achievement. No student should be counseled to go to college unless his studies will lead to a goal set by that student. ...Our intellectual snobbishness regarding college has damaged many young people and is crippling our public school system.[3]

What confounds such realistic thinking is the Department of Labor's very optimistic projections for the increase in professional, technical workers, or white collar workers in general.[4]

It should be considered the province of the vocational advisory councils to forecast needs for professional as well as skilled and technical workers. Not until the entire range of occupations is brought together in one domain of concern can appropriate decisions be made for curricular offerings and for an individual's guidance. Because concerns of Cherry Hill involve occupational guidance for all students, it is suggested that the term "vocational" be avoided and the general advisory council be called the Occupational Advisory Council. This council can create advisory councils or committees to advise department chairmen, coordinators, or instructors on specific courses or programs. At the moment, the lack of an overall advisory council allows little input from sources outside the school before programs are funded or before instructors proceed with course development.

---

3 Grant Venn, Man, Education, and Manpower. (Washington: American Association of School Administrators, 1970), pp. 97-98.

4 U. S. Department of Labor, U. S. Manpower in the 1970's.: Opportunity and Challenge. (Washington: Government Printing Office, 1970), pp. 10, 13.

It is essential that the district realize that Occupational Education is not traditional vocational education, nor is it purely non-occupationally-oriented industrial arts. New Jersey is currently funding pilot projects in elementary and middle schools for occupational awareness, in the spirit of new horizons in what was a limited vocational venture in the United States. In Cherry Hill, projects at Brainerd and especially Beck are expanding occupational awareness teachings beyond the traditional unit in eighth grade English.

The Cherry Hill Community and Student

The consultants have spent considerable time in assessing how significant the college-entry bias has exaggerated college enrollments from the senior class. It is a very subjective and risky task to determine how many students should be given a marketable skill in high school, and how many need not acquire significant income-producing skills until after college. What makes the task so difficult is that schools have the ability to convince students that college is the best route, despite any criterion of success in the adult work which may suggest that college is only one of many good routes. The fact that students may be getting into colleges is no indication that they belong there. No studies have yielded valid results on attrition rate of Cherry Hill students from colleges or their future occupation following college. Such studies could yield valuable data on satisfaction and performance at college if a system could be devised to insure more returns of questionnaires.

Information was obtained from various sources upon which was founded the suggested emphasis on occupational guidance. Formal sources were as follows:

1. A random sample of 50 students from each high school indicated their perceptions of their student body. Medians and means of percentages voted on were viewed and confirmed other sources of data.

2. The plans for the members of the classes of 1970 and 1971 at East High School were reviewed. This document prepared by the guidance department shows sex, institution or employer, and the major or occupation. Plans for 779 students were reviewed and classified.

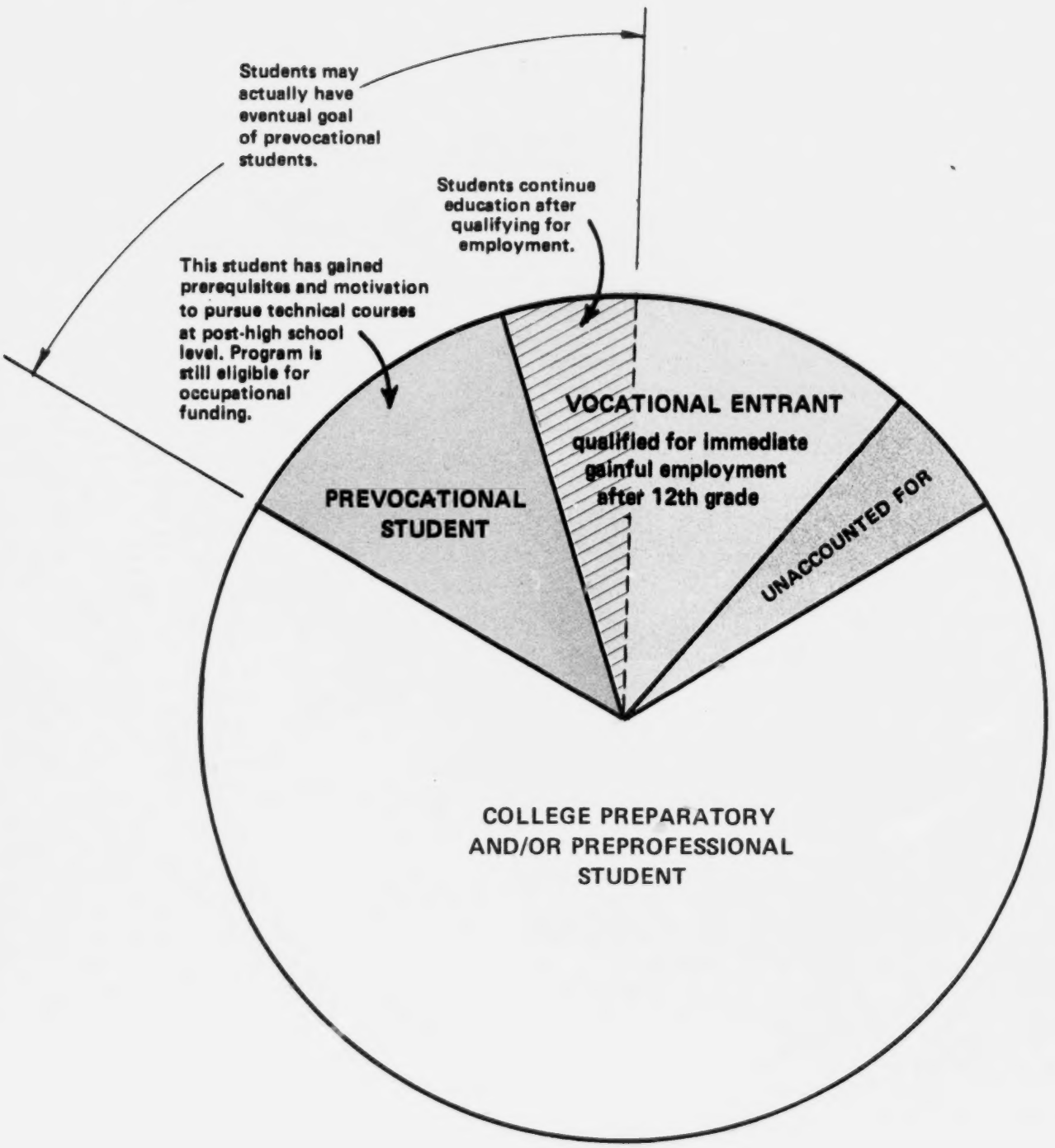
3. Follow-up studies for both high schools (class of 1970) were reviewed.

4. A group of systemwide representatives of guidance counselors, secondary school principals, department chairmen of guidance, science, related arts, and business expressed their views by ballot on desirable percentages of students with various goals.

5. National trends were also used to gauge thoughts of the report. Although Cherry Hill may still remain well below the 60 per cent Vocational Entrant goal, the movement away from only 16 per cent Vocational Entrant present now is justifiable in light of national studies.

The following two charts illustrate the present career goal orientation and what is suggested as a more relevant curriculum for the Cherry Hill students. An improved occupational orientation of the schools not only would give better skills to vocational entrants, but would raise the chances of a graduate's having a marketable skill. There is no room for an "undecided" student in an occupationally oriented school. Although there is always room for continued learning, most graduates should have a marketable skill to fall back upon. Eventually, 90 per cent of students may have gained such skills, but at the moment, Cherry Hill should not feel inadequate if 64 to 70 per cent of its students cannot earn a living upon graduation from high school. For girls, it may soon be possible

PRESENT DISTRIBUTION OF CHERRY HILL HIGH SCHOOL STUDENTS WITH VARIOUS GOALS FOR FUTURE

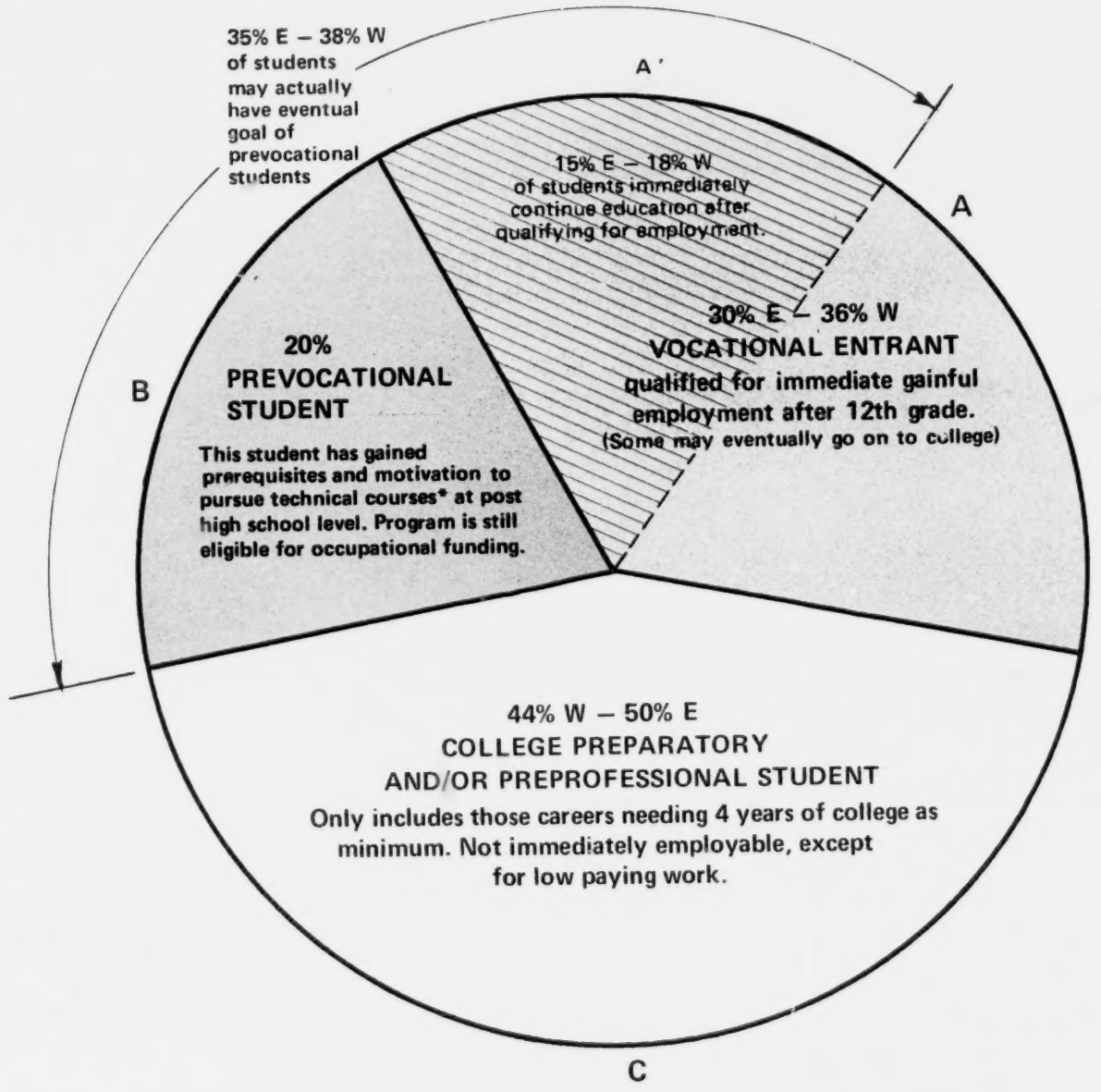

Students may actually have eventual goal of prevocational students.
Students continue education after qualifying for employment.
This student has gained prerequisites and motivation to pursue technical courses at post-high school level. Program is still eligible for occupational funding.
VOCATIONAL ENTRANT
qualified for immediate gainful employment after 12th grade
PREVOCATIONAL STUDENT
UNACCOUNTED FOR
COLLEGE PREPARATORY AND/OR PREPROFESSIONAL STUDENT

Source: Follow-up study reports and information on classes of 1970 and 1971.

POSSIBLE PER CENTS OF STUDENT BODY WITH VARIOUS SKILLS UPON GRADUATING FROM HIGH SCHOOL

(after implementation of an adequate K-12 occupational curriculum in Cherry Hill Schools)

A + B + C = 100%



Efficient utilization of centralized county facilities may involve upper classmen leaving home school for ½ day in the future.

*Courses include those leading to such occupations as nursing (less than B.S./R.N.), commercial art, water pollution control, technician, interior decoration, associate degrees in business administration.

E and W indicate slight variations in career differences between school populations at East and West High Schools.

to have at least job entry business skills for a vast majority of college preparatory students. Such instruction would not involve the high costs of other vocational skills, nor the problems of finding teachers of many skilled trades. Development of income-producing reserve skills for college preparatory students should be a study for the District Instructional Council to supervise in cooperation with a newly instituted Occupational Advisory Council.

It is recommended that occupational guidance (through course experience and field trips) be given to college preparatory students even though such courses are usually not eligible for federal funding in high schools. Such occupational guidance can be achieved through an elective system which mixes those acquiring job entry skills with the student electing "industrial arts." Industrial arts no longer becomes a superficial or highly theoretical treatment of industry, but is a concentrated dose of practical knowledge and attitude-shaping experiences, good for shaping career decisions in that area or useful as general knowledge for a literate man.

Occupational education in its best sense concerns itself with all students, with a wide gamut of mental and physical abilities, from the special education student to the genius starring in the physics class. At the elementary and middle school, common occupational instruction should be provided to all students. At the high school, specialization should begin, with flexibility which may even extend the hours or years of schooling until a student is satisfied that he is making a reasonable career choice.

Occupational education should give students the ability to adapt to changes in job opportunities. Career clusters or training in diverse occupations needing the abilities inherent in a student are ingredients of proper curricular planning.

With the foregoing in mind, the following relative stress is recommended as a short-range goal for Cherry Hill (see Chart on page XIV-8).

Thirty to thirty-six per cent of high school graduates should have skills useful for gainful employment as a result of specific training in high school. Some of these students will continue at some time on to college. About half of these students will proceed on to technical courses to upgrade the skills immediately. Some will use their skills to qualify for on-the-job training. Some will enter apprenticeship programs. Others will work while attending college. (Eventually more and more college preparatory students should have this advantage.)

Twenty per cent of the students should receive such instruction as electronics, hydraulics and fluids, bookkeeping and business law, technical chemistry, occupational art, and occupational home economics which would prepare them for a two- or three-year course of study leading to job placement. These 20 per cent would lack job entry skills because time was consumed in a more theoretical approach to their eventual occupation.

Forty-four to fifty per cent of the students would take electives in what is now the related arts department, but would not gain sufficient skill in home decoration, child care, automotive mechanics, air conditioning and refrigeration, cosmetology, etc., to market themselves in the field. These students would go on to four more years of education (at a minimum) before being self-supportive.

The Present Status and Recommendations to Achieve These Goals

1. There are at present strong beginnings to achieve harmony among all departments which can share in occupational guidance and training. The related arts department is not an appropriate mechanism under which to further coordination. The related arts areas are naturally related, but occupationally science is just as related to industrial arts as is fine arts. Materials and projects can be coordinated without departmental organization. It is suggested that business, home economics, industrial arts, and vocational education be directly under the guidance of a Director of Occupational Education. (The Director would also influence elementary instruction in occupational awareness.) Team leaders or department heads would be under the Director in business, home economics, and occupational education (industrial arts and vocational courses). Where departments are small, as in home economics, team leaders will be at each school and one leader will be a department head for the system on a rotating basis for long periods (3-4 years) of time. Team leaders would be responsible for inservice help concerning instructional methods and implementation. Department chairmen and the Director would be involved with curricular policy decisions and purchase of supplies.

2. The existing staff is an excellent nucleus for teaching job entry skills and devising curricula. The lack of course development via departmental and systemwide thinking is reflective of the college-oriented bias in the system. Funds should be spent on interdisciplinary development of courses in the departments of business, home economics, and occupational education. Allied courses in other departments should be planned, such as "C" level science courses, technical chemistry, and technical, "C" level mathematics. (Analysis of teacher comments on curriculum at West High School indicates few rewards for teachers engaging in the challenge of teaching lower ability levels in most departments. The system must hold in high regard those teachers of students lacking verbal or academic interests and skills.) Extracurricular groups, such as a leaders' corps in physical education, or library club, could also be allowed to explore occupational "work styles." Special education course outlines must be revised immediately with occupational direction through advisory councils and interdepartmental planning.

3. Special education at West High School is so far outstripping planning at an occupational level that the innovations stand a chance of failure because of inadequate back-up in logistics and job planning.

4. Staff talent and knowledge can be broadened by inservice training or additional support and coordination. Drafting and design curricula, at East especially, are currently architecturally oriented rather than allowing courses to develop significantly on an individualized interest basis. Scheduling problems confound those teachers who are versatile. In all departments, a mini-course (six to nine weeks), or modular scheduling made possible through computer scheduling, may aid in giving individualized instruction. Examples in drafting and in related arts follow on pages XIV-13 and XIV-14.

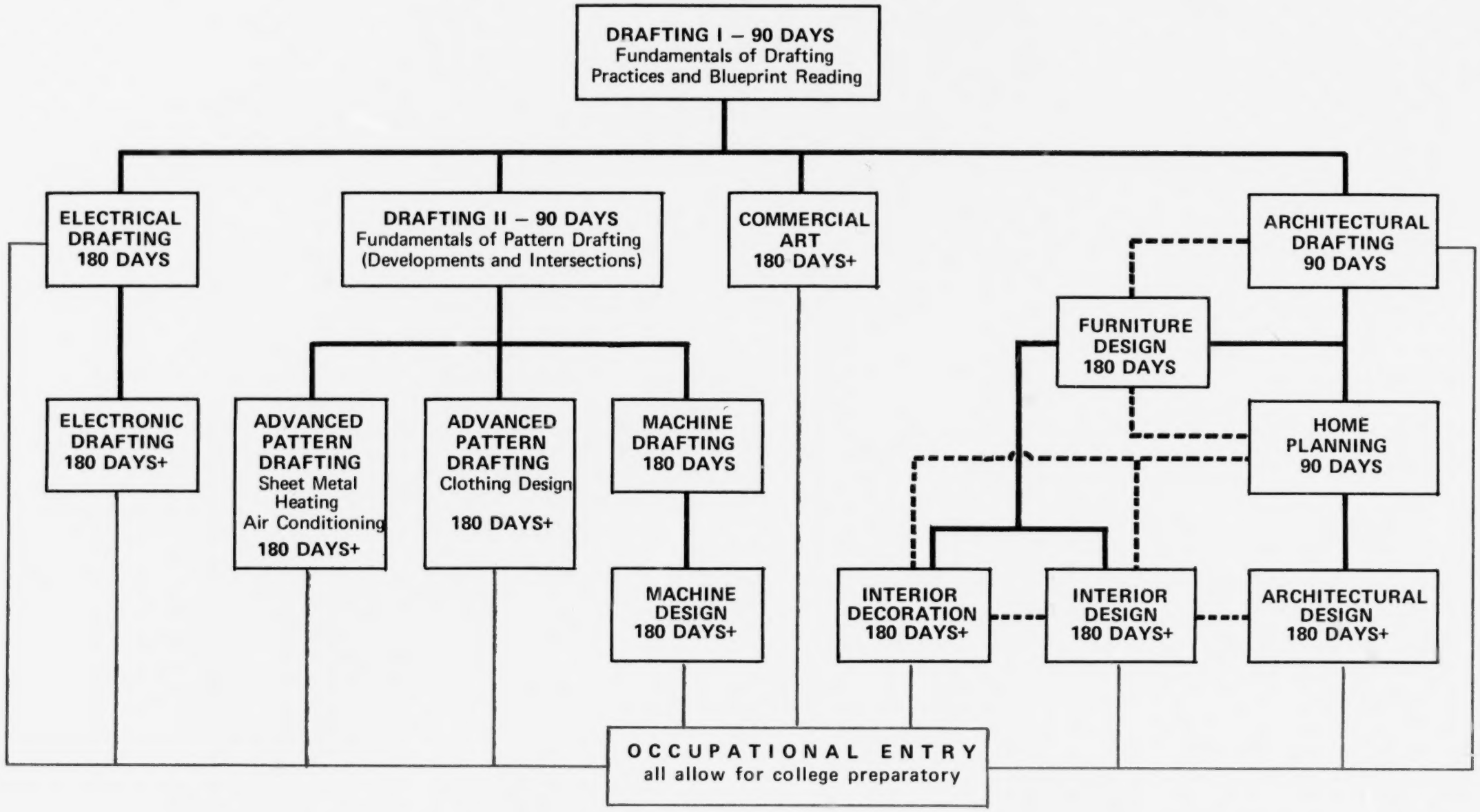
5. East has had singular examples of success with occupational education among its more talented students. There is excellent opportunity existing for a few students, but administrative (including the D.I.C.) back-up is needed. However, the creation of courses lacks the systematic planning needed in a large occupational endeavor. A general advisory council and directorship should aid this policy-making problem. Vocational entrant students should enter better jobs than they are now entering.

6. There is little interdisciplinary planning or cooperation between courses. Communication must be improved. Furthermore, guidance must become a function of teachers as well as of the guidance staff. Foreign language instruction is an example of where a department may teach an occupationally useful skill. Spanish understanding and fluency are extremely useful skills at all levels of the health field. (Caution must be exercised in basing such judgments on superficial evidence.)[5]

   Social studies units on labor and management strife, union leadership, and union practices should be candidly integrated with some occupational clusters.

5 See (Gilbert C. Kettelkamp, Vocational Opportunities for Foreign Language Students, (New York: The National Federation of Modern Language Teachers Associations, 1967).

A SAMPLE OCCUPATIONAL PROGRAM TO BE TEAM TAUGHT
IN A LARGE FACILITY OF 2,500 SQ. FT.



A student may start at 9th grade and up.
Exceptions will be made for 8th graders showing talent.
Individualization allows flexibility for particular students in regard to time.
Time duration based on one period per day.

DRAFTING AND DESIGN CURRICULUM

Engelhardt and Engelhardt, Inc. – Educational Consultants

SOME SUGGESTED MINI-COURSES IN RELATED ARTS
(Acquaintance only, low skill acquisition unless repeated)

1. Appliance repair
2. Masonry
3. Landscaping
4. Auto repair
5. Gourmet cooking
6. Upholstering
7. Drapery making
8. Slip covers
9. Tailoring repairs, reweaving
10. Painting in oils
11. Ceramics
12. Home planning
13. Home decoration
14. Store and office planning
15. Costume design
16. Electricity
17. Graphics
18. Photography
19. Plastics
20. Fluid dynamics
21. Electronics - hi-fi
22. Radio
23. Information retrieval

7. The eighth grade English unit in occupations must be replaced with an active learning experience as being developed by the Beck industrial arts instructors. Here students were observed, after school, learning to build houses, or solving interdisciplinary problems. Heritage and Brainerd are also exploring interdisciplinary approaches at the seventh grade level. The Introduction to Vocations course might be upgraded to a compulsory course and be a conglomerate of home economics, industrial arts, using a broad interdisciplinary approach.

8. For C.I.E. students (Cooperative Industrial Education), theoretical follow-up is needed in the student's area of work. Scheduling problems must be overcome to increase acquisition of job attitudes and skills.

9. A major expansion of follow-up studies should be undertaken by the suggested E.D.P. liaison, located in the guidance department.

10. Liaison with the employment security agency is poor. Testing of aptitudes should be done on an individualized timetable. Labor market conditions and projections should be known by the instructors at the school. For the most part, wage scales are only discussed in D.E. and C.I.E. classes - well after career decisions have been made.

11. East lacks a woodworking shop (a plastics program would allow woodworking), and both high schools lack a thoroughly integrated service to drama and other school subjects. East does have talent in stagecraft available. The Beck School is the most developed, service-oriented related arts department because of the team teaching at that school.

12. Logistics support and in-school organization of supplies in occupational education must be regulated and evaluated each year for improvement in the system. Ordering, distribution, and use regulations are in a poor state.

13. Dictionary of Occupational Title Codes should be included in course outlines to indicate that goals are job entry skill oriented. Clusters will have to be developed locally. Suggested clusters for vocational entrants should be available in guidance departments.

14. Students should be involved in setting up a mini-course offering if instituted. Failure in the past may have been the result of student disinterest. Specific reviews of existing occupational-related arts subjects follow.

XV

INDUSTRIAL ARTS AND VOCATIONAL COURSES

During the process of conducting the curriculum survey, it has become apparent that a major reorganization of the role of the industrial arts departments in the secondary schools is to be undertaken. In those buildings whose facilities were labeled inadequate (School Building Needs Study, July 1971), it would be a mistake to proceed with building renovation before a Director of Occupational Education could organize advisory councils and until courses of study were undertaken at an interschool level. Where facilities now exist, such as East where a Plastics-Wood Shop could be equipped, it is suggested that such expansion be implemented immediately.

Because stress on occupational goals has been made in this report, it should be mentioned here that shop experiences also serve at least three other goals:

1. to allow and develop expression in a respected, acceptable mode of activity which is nonverbal -- develop avocational oriented skills.

2. to develop attitudes toward work which might not be gained by some students in other areas such as physical education and science.

3. to give some practice in home maintenance skills needed by home owners and others involved in dealing with a society which is technologically oriented.

These three goals are compatible with occupational training; they may differ only in the number of hours spent in these areas. For instance, if we are training some students for appliance repair, girls may have a mini-course in appliance operation theory in the same shop (possibly taught by the students having a concentration in that field).

Logistical support

To operate any curriculum highly dependent on materials and sensitive to outside factors (employment market, etc.) requires smooth logistical and other administrative support. Three items appear in need of faculty--administrative task force study:

1. In the past, course offerings have been not geared to real needs of students as much as could be. Occupational advisory councils have been created for courses after a policy decision was made for a specific course. Nonoccupational courses (introductory/home maintenance) have limited value in home shops and home maintenance because little analysis has been given to what skills are needed in the home; metals shop is an example. A lack of a wood-plastics shop is another example, at East. Curriculum development is a crucial need in industrial arts; the DIC should recognize this need.

2. Procedures for ordering must be reorganized. Stockpiling of materials in a central warehouse may be necessary. The acquisition of a new computer should aid in inventory control. Quality control of goods supplied and reordered should be better.

3. Scheduling should become more geared to curricular needs. Since manual scheduling has been done in the past, severe limitations on flexibility were natural. Now that a sophisticated computer has been acquired, new scheduling modes can be adopted for various goals. Mini-courses of several weeks' duration can be scheduled without too much advance notice of selection by students, back-to-back scheduling of the same or related subject periods could be tried, modified, and modularized scheduling could be attempted with a portion of the student body.

Curricular review

Curricular cooperation among departments and courses should be encouraged. Art courses in ceramics and applied design could be closely related to industrial arts. Physics and mathematics are obviously related to hydraulics and

electronic courses. Clusters of related skills should be developed for occupational orientation. Possibly all clusters would have some common threads of attitudes and knowledges.

Basic tool skills may not be taught well in junior and middle schools because of student size. Teachers must confer on this and measure success of tool skill training by a sophisticated evaluation design. The seventh and eighth grades may be an excellent area for stressing concept acquisition in interdepartmental endeavor. Vocational awareness courses should give students a taste of the roles various people play in our society. Basic safety attitudes should also be cultivated by proceeding with projects involving machinery and dangerous tools. Behavior goal attempts at Beck are excellent, and contract work experiences should be expanded. Provision for awareness courses should be made at the high school level also, for ninth graders and older students reevaluating their career goals.

Mechanical drawing at junior and middle schools is not well coordinated with the receiving high schools - as it should be. Mechanical drawing courses at East and West, although similar in many ways, were observed to be broader in scope at West that at East. A more interdisciplinary approach in proper facilities with team teaching would benefit all, especially if individualized instruction could be developed. Team teaching between shop teachers and mechanical drawing teachers should be encouraged so that students can follow a project from design through fabrication. Arrangements for transfering to Camden County Schools should be explored for eleventh and twelfth graders. Cooperation with art teachers should develop some awareness of a student's capabilities in commercial art, interior design, and like areas.

Graphic arts suffers from lack of properly equipped spaces and little team teaching with related skill areas such as mechanical drawing. Occupational orientation is poor in these courses. Photographic occupations are slighted in all schools.

The electronics program at East has been highly successful in technological and avocational aspects. Its close association with a large ham radio station is to be commended. How vocational entrant skills could be obtained for more students in service industry for hi-fi, radio, or T.V. repair and lower skill levels should be investigated. This may mean sections or course divisions to be added.

Course objectives in the metals courses are laudable, but serious doubt exists about whether they are being accomplished. Several reasons lead to this doubt:

1. Objectives are not behaviorally stated in refined ways so as to measure accomplishments. Curricular development has not really occurred as in other areas sanctioned by the DIC.

2. Students scheduled for metals laboratories may not have the aptitude and mathematical achievement record necessary for developing marketable skills for the metals field.

3. Machinery and facilities do not seem to have a strong base in analysis of avocational practice after graduation from high school or in vocational entrant needs.

4. Materials are in short supply.

A metals unit in awareness courses is excellent and might be reinstated if Introduction to Vocations became a more widely elected course with revised content.

At East, where modest auto-mechanic facilities exist, instruction is available; but facilities must make it difficult to develop skills in all but the sharpest students. Success in regional and national competition, has been achieved with many students, but let such examples not blind the Board and Advisory Council to the need

for many more students to achieve success in this area of study, possibly including special education students. The facilities and course have different goals from those at the Regional Vocational-Technical School, and the curricula of the two schools should be studied in concert. Possible transfer of students could be arranged if the science and mathematics prerequisites could be gained. High use of this facility with the evening school should not conflict with possible follow-up classes with Cooperative Education students (possibly mixed with practicing mechanics).

Cooperative Industrial Education is placed in Related Arts at East and under Business at West. This reveals, again, the need for a Director of Occupational Education. All cooperative programs should be districtwide and under the Director (not the principal or a school department head). Theory and experiences should be aired in a class back at the home school in the evening or during the day (scheduling permitting).

Cosmetology can be used as an excellent example of vocational-oriented course development at Cherry Hill.

1. Although placement of graduates is not a problem, the basis for choice of cosmetology as opposed to another curriculum is not clear. Why was not a plastics program funded? Why has not a landscaping-agricultural program been considered.

2. The course is well run from a licensing and professional standpoint, but not from an interdisciplinary standpoint.

   Opportunity should be given for business educational students to acquire skills in managing a small business. So too, cosmetology students should be taking courses in the business department, such as bookkeeping, entrepreneurship, business law, etc. These courses are relevant to the cosmetology field, but even the State may not recognize the need. Powerful liaison with the State is needed in the Directorship position to negotiate innovative curricula.

3. There is at present no opportunity for awareness courses, units, or experiences in cosmetology by college preparatory students or by undecided students. Coordination with home economics should be developed.

As the Camden County Vocational schools become oversubscribed, there may develop a receptive attitude to creating reciprocity agreements to allow students to transfer or use both schools. Certain types of occupational programs lend themselves to decentralization; landscaping (suburban agriculture) and child care are examples. The reason that decentralization is advantageous lies in the type of service rendered. Twenty or forty boys learning landscaping at the Pennsauken campus overload the grounds training opportunities. In view of grounds problems at the Cherry Hill schools, especially Heritage and High School East, there is no reason why instruction could not use the school grounds as a learning laboratory. Care must be taken not to reduce such agricultural courses to physical labor. However, the problems encountered by the system are scientifically intriguing. Students could gain a degree from Pennsauken or go on to a college to major in programs related to turf management. Others would have learned useful home maintenance skills without a high degree of time involvement.

Summary

In summary, the industrial arts department

1. Needs to be supported in its effort to develop curriculum guides
2. Needs to improve interdisciplinary efforts and to attract a wide variety of students in all courses
3. Needs better logistical and administrative support
4. Should work toward cooperative programs with the vocational-technical schools.

XVI

HOME ECONOMICS

At the turn of the century, home economics education was being formulated as a curricula effort to bring scientific thinking into the home as it had been on the farm.[1] The curricula role, quite related to the home economist extension worker, has changed considerably for suburban schools, but care should be given to keeping the original basic concerns for training in home management for girls, a relevant concern for today.

Advertising has so increased the housewife's knowledge of technological development in household machinery, that courses are no longer needed to tell suburban youngsters what is available to lessen the drudgery of housework. The deluge of household products has created another area of concern for the housewife - choosing which appliance or product to buy, and how to purchase. Consumer education is probably even more involved than what the originators of home economics courses conceived as germane instruction. The 1968 Amendments to the 1963 Vocational Act emphasizes the importance of consumer education.[2]

---

1 Proceedings of the Third Lake Placid Conference on Home Economics (1901) cited in Beulah Coon, Home Economics Instruction in the Secondary Schools, (New York: The Center for Applied Research in Education, Inc., 1965), pp. 1-2.

2 An excellent up-to-date state-of-the-art and federal legislation review in home economics education is, A Guide for the Development of Consumer and Homemaking Education, (Lincoln, Nebraska: Department of Home Economics, Nebraska University, 1969, ED 034 876).

Aside from consumer education, the home economics course must also deal with management of the housewife's time and family relations. Although objective study can be applied to this issue, more subjective and value-dependent discussion can evolve around the place of the housewife in the community, the working wife, what can the husband be expected to do, etc.

From the individual's perspective, the life of a single man or woman poses management problems which involve schemes of sharing costs with other single individuals or relations with parents. Aspects of providing care for the aging also present similar problems. The pros and cons of various solutions should be aired. Instruction may also be carried home to bear on immediate concerns of the family, as well as lying dormant for future needs of the student, in such areas as clothing expense, diet, housekeeping, and comparison shopping.

Family planning and aspects of sex education would hopefully be discussed in the home or in church groups where values can be discussed openly without infringing on the rights of parents to guide the awareness of their sons and daughters in such areas. However, the individual student has rights which supersede the rights of the family. The parents' right to maintain ignorance in facets of family planning does not really exist; the student's right to approach such topics in sex education with appropriate introduction does exist - this is an issue for local discussion.

Home economics is a proper place for instruction in personal hygiene and instruction in cosmetic use, hair styling, etc. Allied to this instruction is the traditional instruction in nutrition, baby care, and clothing selection. Aside from

the above, home economics also should teach other skills of a technical nature. Such a list of skills must be up-to-date to avoid teaching the irrelevant. Since some students may already possess some skills, or may progress at a faster pace than others, the instruction should be individualized. Such skills can justifiably involve:

Homemaking:

1. Repair skills - appliance, clothing, furniture
2. Cooking skills
3. Sewing skills - children's, women's, men's clothing
4. Child care and volunteer teaching
5. Volunteer work, group leadership
6. Miscellaneous home skills, drapery making, upholstering, etc.

Occupational:

1. Cosmetology
2. Child care
3. Commercial sewing
4. Tailoring and cleaning
5. Hotel-motel-restaurant vocations
6. Professional occupations - teaching, dietetics, chemical technician, etc.
7. Union leadership and job hunting

Home economics also teaches avocational skills that can enrich the life of men and women through leisure time activities. The lack of involvement of boys at West High School in cooking classes indicates a shortcoming under this goal, although the West department values this goal highly with girls.

The implementation of these goals and the increased interest of boys in aspects of family management and skill development have demanded that home economics instruction occur through innovative course structure and extracurricular ventures. Exchange units with industrial arts have been tried with success throughout the nation.

The Chef's Club is a familiar boy's activity, especially at junior high schools. Adult extension courses are often conducted with partial funding from the Department of Agriculture. Interdisciplinary units should be developed with other departments.

Research Findings

There is a need for an assessment of needs at the local level. Such an assessment should cover at least the areas discussed above, which were

1. Consumer education
   a. purchasing and cost comparison skills
   b. financing skills
   c. home ownership
   d. budgeting and elementary bookkeeping
   e. governmental agencies and laws
   f. inflation, investments, elementary economics
2. Household management/family relations
3. Life of the single person
4. Aspects of sex education and family planning
5. Personal hygiene, beauty culture
6. Repair skills
7. Cooking skills
8. Sewing skills
9. Child care and volunteer teaching
10. Volunteer work skills
11. Home skills of elective nature
12. Occupational opportunities
13. Avocational skills.

National research is not needed to justify curricular goals in these areas. In fact, there is not much national research of significant nature in the field of home economics. Two studies germane to Cherry Hill concerns, justify the need for specialized instruction in the area of home economics.

In the Nebraska document (ED 034 876 p. 42) previously cited, home management instruction in small groups was mentioned as having decreased absenteeism among women workers by 75 per cent. Such a marked benefit of instruction could be a peculiarity of the local situation in which the uncited study was conducted, but the assumed need for such instruction could have been the justification for including all home economics instruction under occupational education laws.

Another study[3] confirmed that homemakers who use a more rational approach to decision-making will tend to perceive themselves as being able to exercise control over their environment, while those using a less rational approach will tend to perceive themselves as being more subject to chance or fate. This general result of scientific or rational thought training is found in other subjects such as elementary science. Although it deals with an affective domain goal (attitudinal outcome), the goal is just as legitimate as the cognitive goals more often stressed in home economics education.

Value education is an outgrowth of any instruction, no matter if planned by the teacher or not. Students are always forming attitudes about the relevance of courses and their willingness to adopt behavioral standards. The consultants

---

3 James Rowan Halliday, "Relationships Among Certain Characteristics of a Decision Event: Decision Procedure, Decision Context, and Decision Maker" Dissertation Abstracts 25, No. 11 (May 1965) #6528 cited in ED 023 908 - California Coordinating Unit for Occupational Research and Development, Home Economics Education Research Summary., Sacramento 1968.

disagree with such statements as, "It is not the purpose of consumer education to indoctrinate values."[4] Although "indoctrination" is too strong a word and has negative connotations, teachers must be aware of presenting appropriate values by example and by analysis.

With increased computer capabilities in Cherry Hill, an ongoing evaluation and assessment of needs for home economics should supplement the dearth of research available on achievements in the psychomotor, cognitive, and affective domains.

No curricular guides exist in home economics. As with industrial arts, curricular development in home economics has not been given legitimate priority. The chance for pooling of talent in course development among schools is low. It is suggested that for curricular improvement the home economics teachers be placed in a systemwide department, with team leaders at secondary schools. The department head may be one of the team teachers on a long-term rotating basis. The department, which currently lacks occupational orientation, would be under the Director of Occupational Education.

The program exhibits a continuation of the tried and proven phases of clothing and food, with some limited expansion of the curriculum into a few other phases of home life.

---

4 Illinois State Office of the Superintendent of Public Instruction, Guidelines for Consumer Education, 1968, ED 028 276. This guide is an excellent source of cognitive goals.

As is the case across the nation, teachers are concerned with making home economics a more attractive subject to youth who desire courses which are relevant to their needs. There is a lack of interdisciplinary cooperation among home economics and fine arts or industrial arts courses. Home decoration or pride in beautifying a home through proper care is not well explored. Consumer education should be coordinated with the mathematics and business departments. For some outcomes, English teachers may aid home economics teachers. For instance, on family tension, George B. Shaw has written some witty and provocative plays.

At East, pioneering spirit in food service and hotel training, special education student instruction, and involving boys have not received the deserved encouragement from administration. Revised course scheduling may make full use of rooms possible.

Adequate logistical backup is lacking for the equipment-dependent courses. Sewing machines lie unrepaired for months, and ordering procedures lack evaluation of product quality. Consideration should be given to acquiring a variety of sewing machines, for experience in sewing and consumer economics classes stresses comparison buying.

Summary

In summary, the consultants offer the following recommendations:

1. Conduct an assessment of needs and structure instruction to relieve these needs.

2. Restructure within the related arts department or eventual departmental structure, more team teaching or interdepartmental coordination of units in home economics.

3. Give higher priority to innovations in teaching home economics.

4. Create a supplementary modular program of units. Such units may be open to enrollment as mini-courses (elected every 6 to 10 weeks) during study periods of students. Courses may include:

   Appliance repair
   Outdoor and gourmet cooking
   Baking
   Entertaining
   Family living
   Budgeting and consumer economics
   Small upholstering and furniture repair
   Drapery making
   Home decoration
   Home planning
   Child care

The courses to be offered should be a product of student and faculty discussion.

XVII

BUSINESS EDUCATION

Business education departments at Cherry Hill are staffed with highly qualified and creative teachers. Care must be made not to restrict curricular innovation with limited facilities, poor guidance affecting student election of courses, or general non-recognition of the worth of business careers. The business department is singular among the main occupational departments in having the only occupational curriculum guide for Cherry Hill, Office Occupations I-II. It should not be used as a prototype for other occupational curriculum guides, since it has a serious deficiency in the statement of objectives. The objectives are often teacher behaviors rather than student performance objectives. At best, they are stated as student course activities, not terminal skill objectives. The future success of course and curriculum development in business education depends on adequate analysis and statements of objectives.[1]

Business education has adopted legitimate general objectives for all types of students:

1. To prepare some students for immediate employment after graduating from high school, even some who wish to pursue a college education

---

1 For example, see the following sources:

a. Frank W. Lanham, et al., Development of Performance Goals for a New Office and Business Education Learnings System (NOBLES): Final Report, ERIC Document ED 041 139, (Columbus, Ohio: The Ohio State University, 1970).

b. Troy E. Nuckols, et al., Terminal Performance Objectives for a Phased Typing Program in Business Education, ERIC Document ED 043 727, (San Mateo Union High School, California, 1968).

while earning expenses. In fact, many college graduates use skills gained in high school for gaining job entry, such as an editorial assistant, personal secretary, or administrative assistant.[2]

2. To stimulate interest in occupations requiring less than four years of additional training, but only give basic rudiments in high school for such careers. This goal applies to the prevocational student mentioned in the chapter on occupational education.

3. To equip college preparatory students with personal typing and notehand/shorthand skills for use in future course work.

One common need of all these students is in basic communication skills. The tendency to suggest business English courses should be avoided, since even college-preparatory students exhibit problems in spelling, syntax, and general grammatical skills in the cognitive and affective domains. How these skills can be improved is a matter for teacher discussion with an interdisciplinary committee. Research findings do not give conclusive evidence for any certain method.[3]

The introductory course in business is not attracting a wide variety of students. In fact, career decisions of girls appear to be based on experience outside of school rather than through introductory courses.[4] It is suggested that an occupational awareness course be given in the middle schools which involves some "business" roles.

---

2 Research cited in the National Business Education Association's "Pronouncements of the Policies Commission for Business and Economic Education": Business Education for the College-Bound Student, May 1964, pp. 22-23, shows "that students who take other subjects (such as business) do just as well in college as those who take only certain prescribed subjects."

3 Henry C. Meckel, "Research on Teaching Composition and Literature," Chapter 18, Handbook of Research on Teaching, N. L. Gage (ed.), (Chicago: Rand McNally and Co., 1963), p. 981.

4 Source: student interviews.

Typing is a common skill usually taught to business students. This course should be offered starting in the intermediate grades. Vocational awareness can be brought in as a sidelight in such courses. However, all students should be exposed to a theoretically based course on occupations and roles in our society. Few girls realize that the bright, intelligent secretary is held in high esteem and meets just as many eligible bachelors as college-educated girls. Furthermore, acquisition of secretarial skills can help get oneself through college, or at least complement a liberal arts education.

In such an introductory course and throughout higher level courses, insight into specialized secretarial positions and general problems plaguing industry should be imparted to students. Information retrieval is an intriguing problem for the most creative minds in high school. The possibilities in library science employment are allied to many problems that face the technical secretaries. Introduction of intellectually stimulating problems in secretarial and general business classes may help to attract more of the student body.

After introductory courses in the junior-middle schools, it is suggested that aptitude testing be done periodically to gain more information on what types of jobs offer the most likelihood for success. Such guidance usually requires cooperation of agencies of government outside of education if done properly. Continuing analysis of occupational clusters is needed to define ability or aptitude clusters.[5] Such analysis also helps in structuring curriculum. Interpretation of testing for aptitudes at this age

---

5 Peter G. Haines, "The Occupational Analysis in Business Education," National Business Education Quarterly, 35:39-45, 61, 1966.

must be guarded and looked at as achievement testing to some degree, but agencies outside of schools have found such tests useful in at least weeding out those who would find it difficult to perform some tasks well.[6] Furthermore, an individualized program of instruction might involve pretesting of skills and abilities to allow the skipping of formalized instruction in such courses as office procedures for high ability students.[7] Small modules of skill instruction would aid such individualization and allow recycling of students who need a longer time to acquire certain skills.

When looking at the future role of the Business Education department, a good starting point is an abbreviated list of business educator responsibilities issued (undated) by the last decade's Policies Commission for Business and Economic Education.[8]

1. Discover and analyze the manpower needs and employment status of the nation's work force.

   Strategies:

   a. Establishing local advisory committees.

   b. Discovering occupational trends.

   c. Making occupational surveys such as follow-up studies of students, job analyses, and job performance studies.

   d. Cooperating with government agencies.

---

6 For a discussion of this, see Paul L. Turse, "Prognostic Studies in Business Education," National Business Education Quarterly, 35:53-61, 1966.

7 This has been suggested in the NBEA's "Pronouncements of the Policies Commission for Business and Economic Education," p. 12.

8 Enclosure in the above "Pronouncements."

2. Plan programs in cooperation with educational personnel concerned with agriculture, distribution, home economics, trade and industry, health, technical, and newly emerging occupations.

   Strategies:

   a. Developing behavioral objectives common to all employment.

   b. Developing behavioral objectives unique to the various types of employment.

   c. Organizing instructional patterns to facilitate the achievement of the behavioral objectives.

   d Establishing program priorities.

3. Participate in providing common experiences for vocational students through a group of coordinated youth organizations or a united organization.

   Strategies:

   a. Developing common objectives for vocational youth organizations.

   b. Conducting joint meetings for all vocational youth organization groups.

4. Participate in the development of a common program of administration and supervision of occupational education.

   Strategies:

   a. Coordinating standards for program accreditation.

   b. Developing a common systems approach for program planning and budgeting.

   c. Planning a total program of leadership and staff development.

5. Participate with other vocational fields in educational research and development.

   Strategies:

   a. Co-sponsoring cross-disciplinary research.

   b. Co-sponsoring cross-disciplinary publications and dissemination of research findings.

   c. Developing procedures for gaining adoption and diffusion of innovations.

   d. Implementing and following up research findings.

6. Assist in planning a total program of career information and guidance.

   Strategies:

   a. Co-sponsoring the development of a career-oriented curriculum (K-12).

   b. Coordinating the collection and publication of occupational information and the dissemination of it to guidance counselors and other educational personnel.

7. Assist in developing effective instructional media and materials to enhance the total vocational program.

   Strategies:

   a. Participating in the development of educational materials, media, and systems for all vocational fields.

   b. Assisting in the collection of performance data for such materials, media, and systems.

Thus, the business department could become a strong member of the Occupational Conglomerate headed by the Director for Occupational Education. Furthermore, interdisciplinary efforts should extend outside the conglomerate to involve significant management

problems in information retrieval, secretarial knowledge in technical areas, such as chemistry, etc. Special education teachers should be helped in equipping their students with marketable skills.

Due recognition must be given to curriculum development in business. The District Instructional Council has evidently not recognized problems involved with managing the business departments.

It is suggested that committees investigate at least five major thrusts in curricular innovation:

1. The use of simulation techniques for total management of a business. Structuring future facilities around current office design. An example of simulated office practice is the Lester Hill Office Simulation (by Myron Krawitz) package marketed by McGraw-Hill Book Company. In cooperation with computer classes, the district could create its own simulation games.

2. The development of a course in small business administration, or entrepreneurship. Some students from all occupational courses would be given instruction helpful in eventually setting up their own business, be it custodial maintenance, automotive repair, landscaping, television and hi-fi repair, or cosmetology.

3. The development of a consumer economics course given in the home economics area, but with the help of business teachers.[9]

4. The development of economics units with the social studies department for all levels of students - where such sophisticated problems as world trade and valuation of currency are discussed - possible in seminar size groups.[10]

5. Development of programmed or modularized instruction in basic skills for individualized instruction.

---

9 Both items are expounded upon in Two Decades of Partnership in Economic Education, (Washington, D. C.: National Business Education Association and Joint Council of Economic Education, 1969).

10 Ibid.

Cooperative Office Occupation and Distributive Education teachers are to be complimented on an outstanding job being done at Cherry Hill. Rapport with their graduates, some of whom are on advisory councils, is excellent. These individuals, as with C.I.E. teachers, are overloaded, but the time consumed in supervising students in the community produces a high cost per student. For an efficient interaction with the community, it is recommended that all cooperative teachers report directly to the Director for Occupational Education, or to an assistant director for cooperative teaching if numbers become too large. Such teachers should be the life line between the school and the outside world for which we prepare our students.

If possible, it is suggested that general business or its equivalent in a general occupation awareness course be given at eighth grade level. Other courses could be given one year earlier, allowing for students to take more senior-junior level courses or to allow some others to achieve at a slower rate.

Logistical support for an active business department must be well developed. The pooling of office supplies, such as carbon paper, should be discouraged, unless a central warehousing system insures even supply for the full year. Equipment repair is not prompt enough for efficient use of machines and quality evaluation of bids is poor.

High School Facilities

With an expanded business department, appropriate expansion of spaces should be considered beyond the building needs study. Data processing is not recommended as an area for concentrated instruction. Postgraduate instruction or on-the-job training should be relied upon.

Department chairman recommendations should be followed regarding sink facilities for clean-up, storage facilities, and furniture requirements - if funding allows.

Expansion of the school day can be an economical means of making special facilities carry more of a load.

High School East

Regarding the present facilities at the Cherry High School East, the following major needs exist. Present facilities could be doubled in the future regarding numbers of individuals participating in the business curriculum. At present, three typing rooms are full; however, the future typing capacities probably should be geared to large group instruction with some individualized help with aides and teachers circulating throughout the room. Paperwork and correcting typing exercises are the main problem, with large group instruction and aides employed to do this. The Electronic Futures, Inc. Shorthand Laboratory used in stenography allows individualized instruction to some extent.

This system requires no special room installation and can be moved. Probably this class enrollment could be doubled in size with a change in occupational goals of students. The practice room is sufficient. The office practice room does lack the ability to have machines in use at the same time typing is going on. This could be corrected by the addition of another room for increased enrollment and then splitting the exercises between a machines room and typing. An IBM composer should be added to machine inventory. Electrical supply in two of the typing rooms is deficient, having been taken out due to floor hazards. Therefore, electric typewriters cannot be used in instruction. Rooms are generally too small, they are cramped; there is one regular classroom for bookkeeping

with small desks rather than having suitable types of desks in a larger classroom. Therefore, conversion of that one classroom to other uses and the creation of another larger classroom are recommended. One of the typing rooms could be used for bookkeeping and the typing be carried on in new large group area or office suite.

There could be expansion in conjunction with the other occupational departments in entrepreneurship training from the standpoint of small business ownership. This probably could be constructed as a core course in certain types of skills for small business owners which would involve bookkeeping. This course probably should be taught, therefore, in an oversized room with large desks. This would probably double the use that one room in bookkeeping would have; therefore, it is suggested that two such bookkeeping rooms be provided. It happens that there are two typing rooms for the senior courses in stenography that could be converted to this purpose. The existing two typing facilities then could be joined together in a large typing area with electrical hookup.

Distributive education has adequate space for a small program, but will need expansion. Special education is also incipiently being included in occupational training here; teachers are aware of this; however, when you begin to bring special education students in, spaces cannot be cramped and you may need some additional space in the distributive education area for classes in small groups with special education teachers.

High School West

The teacher offices in Cherry Hill West, especially departmental offices, are together, presenting a very poor atmosphere for confidential interviews among employers, students, parents, and teachers. Especially in occupational education are there needed areas for confidential interviews. The same curricular trends are probably going to exist at Cherry Hill West as at East. However, at West, the department is far-flung and spread throughout various wings of the school.

More individualized instruction is needed for Shorthand I and II. There has been a 50 per cent dropout between the first course in shorthand and the second course in shorthand. The shorthand room, which is near music, has a decided disadvantage acoustically as well as being one of the rooms far-flung from some of the other business rooms. Stenotype machines and individual instruction also probably should be included in the program. This could be done in the large group or office suite atmosphere.

A special distributive education suite is needed at West.

The bookkeeping room is a regular classroom. They will use machines with teaching aides. The equipment which is located within the office practice room has to be carried up to the bookkeeping room at the moment which is quite a trip. This probably hinders utilization of equipment. Bookkeeping classes should be relocated into larger classrooms. Use of desk calculators and some computer work might be developed in the future.

There is actually no departmental area within Cherry Hill West for business education. The department is closely tied together, however, through an esprit

de corps. However, team teaching and supervision would be facilitated by these various rooms being closer together. A simulation of office environment is suggested if building is contemplated. The expansion of this department could be extensive as the program attracts a variety of students.

Summary

In summary, the following actions are recommended for the business education department:

1. By means of broadening the content of courses, giving better eighth grade awareness instruction, and with cooperation from guidance, more high caliber girls should be attracted to secretarial career goals.

2. Abandon the ninth grade general business course.

3. Create an entrepreneurship course for all vocational entrants and pre-vocational students (see occupational chapter for definition) who might eventually run a small business. Such a course would involve, among other concerns, business law, small business administration aid, and bookkeeping.

4. Create sequence ladders of criteria for skill development in such courses as typing, bookkeeping, and stenography. Allow students to be pre-tested and periodically post-tested as they complete units. Some students may progress faster than others; this modularization of instruction works toward accuracy and excellent mastery of skills for all students. The level of attainment is based on how far up the ladder a student has climbed.

5. Avoid special business English and mathematics courses. Most of the student body needs such instruction in basic computational and communication skills.

6. Begin typing in lower grades; fifth through eighth grades are appropriate.

7. Conduct rigorous job analysis and consider cluster reorganization when writing course objectives and suggested techniques. Course outline writing should be sponsored by the district . Criterion-referenced tests should be made at the time of curriculum writing.

8. Introduce simulation techniques into the curriculum.

9. Participate with the Director of Occupational Education in analyzing employment opportunities in yearly studies. Office occupation and distributive education personnel should aid in this endeavor. Such individuals would be under the supervision of the director, not the department chairman.

10. Aid the home economics department in teaching consumer economics. Do not continue to give consumer economics in business courses.

11. Revise, in cooperation with the central administration, supply ordering and distribution policies. Provide for better quality and variety of machines in classes, as well as for prompt repair.

12. Reorganize or build facilities in response to the student demand for courses. Central administration should heed suggestions of business faculty in matters of design and furniture.

The Vocational Education Appendix to the

SCHOOL CONSOLIDATION SURVEY FOR

IREDELL COUNTY, MOORESVILLE, AND
STATESVILLE
North Carolina

June 1970

PAGES 260-304

VOCATIONAL EDUCATION

Particular attention in this survey has been given to the future of vocational education in Iredell County. Conferences have been held with people having diverse sources of information. A vocational program provides an area work force with needed skills, can update skills in the industrial and service labor market, and, in the case of vocational agriculture, is charged by the State with dissemination of new farming practices and adult training. The vocational teacher can profitably interact with adult practitioners as an employee of industry during vacation periods or as a counselor to farmers. By interacting with the employers of their students, vocational teachers receive information necessary for evaluating their own instructional program and incorporate into their curriculum new ideas found outside the school. The use of summers, with proper management, can provide continuing work experience for vocational teachers. It is also a possibility that some highly skilled individuals might be brought into the classroom as resource people during their season of low employment. The vocational program in Iredell County can and should be directed by a person (with an advisory council) who feels that this program is a strong link with the total community. The industrial, business, service, and agricultural communities benefit from such liaison along with the school program.

Do We Need Vocational Education?

It has been obvious to leaders and citizens of Iredell County that a complete vocational education system is needed for all of its citizens. At present, the Iredell County system is leading the County in per cent of secondary students enrolled in vocational courses. Table 46 presents the latest statistics available from the State in its 1968 Profile of Significant Factors in Education in North Carolina: A Ranking of School Administrative Units.

Table 46
SECONDARY STUDENT ENROLLMENT IN VOCATIONAL COURSES
IREDELL COMPARED TO OTHER AREAS
1968

Item	School System		
	Iredell	Statesville	Mooresville
Total 1968 Secondary Enrollment	2,563	1,338	697
Vocational Enrollment	1,735	436	207
Per Cent of Total Enrolled in Vocational Courses	67.7	32.6	29.7
Rank within State's 160 Units	31st	141st	147th

Descriptive statistics and reference points:

State average percentage is 48.8
State middle (median) percentage is 54.4
Lowest percentage is 16.6
Highest percentage is 94.4
Mecklenburg was 24.2% or 153rd in rank
Hickory was 20.2% or 158th in rank
Lenoir County was 81.5% or 8th in rank
Rowan was 52.4% or 88th in rank
Catawba was 48.6% or 101st in rank

Symptoms of the need for a vocational program include:

1. Business will have some openings for high school graduates having entry-level skills. Entry-level skills include knowledge of vocabulary and a sense of safe shop behavior as well as training in the use of materials and techniques appropriate to the work area.

2. Business complains that attitudes toward work of new employees leave something to be desired. Often high school graduates do not seem to receive enjoyment from a job well done; they lack a work ethic which many graduates of vocational programs possess.

3. Consumers (including home owners) complain that they wait long periods of time for repair service. Often the repair does not remedy the trouble. Except for vocational agriculture programs in the County schools, students are not taught appliance or motor repair skills in the schools. Statesville has a small, weakly-financed carpentry repair and cabinetmaking shop in its high school.

4. As is true in most schools across the nation, skills learned in elective courses in secondary schools rarely prepare boys and girls to handle home repair and remodeling. Some college preparatory pupils can get this training in the County High Schools and to a lesser extent in the Mooresville Junior and Senior High Schools.

5. The high schools are primarily college preparatory in subject matter and methods. (This is the most economical training to give; a fact which may explain its predominance.) In some schools an exceptionally large number of students enter college or post-high school training. The statistics from guidance counselors will not be quoted since several faults lead to misinterpretation. It should be noted that:

   a. Post-high school training is defined differently by various schools.

   b. There is reason to believe that follow-up statistics two years after graduation would give a more valid picture of career goals; a study of dropouts from college should be made by counselors at some time.

   c. Most students may be forced to go to college since no real alternatives are left to them by their parents.

   d. Students may find, after matriculation, that certain colleges offer programs which are not sufficiently challenging to their interests.

Some contributing factors to very high college enrollment figures include (1) present popular cultural pressures by news media and parents, (2) modest entry requirements at nearby colleges, (3) modest costs of nearby colleges, and (4) misplacement of students because of a lack of occupational experience in the secondary schools. Pamphlets in a guidance office are a poor substitute for course work in various occupations. Iredell County, including the cities, may be more like a cross-section of the United States than the people of Iredell think. We should talk about percentages of students who should go on to college rather than the percentages that do.

6. Some people wish to create an even better tax base in the County by creating a skilled labor pool. The new census may indicate less commuting into Iredell County for jobs. Neighboring industrial centers (Winston-Salem, Hickory, Salisbury, and Charlotte) might absorb vocational graduates before Iredell industry can hire them. To prepare graduates for surrounding industry only would not be advisable, but surrounding markets for labor can be used as a buffer to guard against overproduction in a particular vocational area before programs can be modified.* A flexible system of vocational education is an important factor in attracting certain types of industry. Furthermore, the graduates of the vocational program have the necessary attitudes and literacy to be retrainable in company education programs.

7. In order to keep some students in school and enable them eventually to acquire high school level communications skills, appreciations, and understandings, we must offer course work which has immediate reward and practicality. Occupational education makes theoretical courses more pertinent and understandable for even college preparatory students. Even if industry does not wish to have schools teaching entry-level skills for jobs in such areas as textiles, some actual job training may have to be given to cultivate interest and pride in the program. Graduates of a vocational program should have definite pay advantage over nongraduates when entering industry. In grades eight through twelve, withdrawal figures (see Table 47) indicate about five per cent of students become actively disenchanted with a college preparatory high school; other students stay in school but are undoubtedly passively disenchanted. Where large enrollments occur in vocational courses, percentage of dropouts decreases.

---

*Surrounding areas can act as "buffers" in at least two ways:

1. Employers outside Iredell may employ graduates of new programs prior to attracting new industry to Iredell.
2. In case of overproduction of skilled labor, the variety of neighboring employers can absorb skilled labor force produced prior to revision of curriculum.

Table 47
PER CENT OF DROPOUTS FROM GRADES 8-12
Iredell County, Statesville, and Mooresville
1966-67 through 1968-69

Year	Item	School System		
		Iredell	Statesville	Mooresville*
1966-67	Total Enrollment	3,271	1,730	875
	Dropouts	237	113	36
	Per Cent Dropouts	7.2	6.5	4.1
1967-68	Total Enrollment	3,368	1,748	889
	Dropouts	179	81	47
	Per Cent Dropouts	5.3	4.6	5.3
1968-69	Total Enrollment	3,391	1,751	878
	Dropouts	158	93	49
	Per Cent Dropouts	4.7	5.3	5.6

*Consultants were able to deduct figures in Mooresville for pupils who were excused from school attendance because of physical or mental disability or who were committed to correctional institutions (W7-W8). All other figures include state coded reasons (W5-W12).

8. There is evidence that, where a vocational program exists, aspects of school maintenance are improved. Vocational education can train, as well as serve a maintenance or minor construction function in schools. Vocational agriculture is an example of this, as well as some projects done in the high schools of Statesville and Mooresville.

9. Where strong vocational programs exist, there have been elements of strong community ties among the school, potential employers, and postgraduates. Although a surprising number of college graduates return to Iredell County, there is usually a predominance of non-college-preparatory high school graduates in the home town alumni of a community.

To pay attention to the concerns of this element of the population nurtures a support for education which is considered relevant to the community's needs. Most parents want their children to become self-fulfilled, productive citizens. (If parents feel that college education is the only route to this goal, the school system must help create an improved community image of jobs open to intelligent and skilled high school graduates.)

10. The availability of open places in apprenticeship programs is evidence that there is ability to follow training in appropriate fields.

11. Estimated growth of Iredell County points to excellent opportunity for practice of vocational and related avocational skills that could be taught in an expanded vocational program. Unhampered by any restrictive union practices, the school system could play a large part in the development of the County.

12. Highly successful local adult education programs in North Iredell and Statesville are testimony to the need for an adult program, often in conjunction with neighboring state-supported technical institutes. Adult programs include high school equivalency, vocational, avocational, general education, and some professional courses. Often adult education has raised the sights of children of the participating parent.

What Philosophy of Vocational and Industrial Arts Education Is Appropriate?

Despite the increase of leisure time in our way of life, occupations utilize a very large part of our waking hours. For a large portion of citizens in Iredell County, their avocational interests are significant income producers - a situation turning a second occupation into an enjoyable, yet not strictly leisurely, activity for hours after the primary wage-earning job. The type of occupation for which one is qualified often influences aspirations in leisure-time activities, be they as diverse as reading, sports, or participation in government. Public elementary and secondary education should pay attention to such an essential facet of our life as our future occupation.

If we admit that most of our students need* not go on to liberal arts colleges, and that we prepare very few vocationally skilled graduates, we will see a large percentage of students who need guidance in the area of occupational choice and preparation. A number of these students may elect to further their education in technical schools. However, many will enter the world, tired of schooling and not prepared for any particular work. In fact, many students are criticized for not "knowing what work is." To "know what work is" is part of a liberal education; it is part of knowing yourself and your own capabilities. In fact, to have achieved at work is essential for self-respect. (Young children constantly exhibit evidence for this last assertion.)

If some students are ill prepared for work or future education - a member of this group has sometimes been called a "gray-area student" - we must restructure the curriculum to avoid placing students in an unrealistic, uninspiring, albeit economical program of studies. The restructuring will require better funding for facilities and a willingness of teachers to deviate from an academic lecture approach. When interviewing teachers, your consultants found many teachers ready to try new approaches for the "average" student in order to increase his enthusiasm for school. It is practical to start a program to diminish the number of "gray-area" students without pressuring them into college.

---

*Need is meant to have significance in two ways:

1. Society may not need so many college graduates.
2. The individual does not have to go to college for a fulfilled life with challenge, respect, and moderate to high income.

In conclusion, we might say that public secondary education accepts the responsibility for preparing youth for essentially three courses of action following high school:

	Future Course of Action	Term Applied to Student
1.	Enrollment for four-year professional or two- to four-year liberal arts training at colleges and university	College preparatory and/or preprofessional student
2.	Enrollment for two-year technical training at such institutions as Mitchell College; Catawba and Rowan Technical Institutes; Central Piedmont, Wilkes, and Lenoir County Community Colleges	Prevocational student
3.	Entrance into gainful vocations immediately upon graduation	Vocational entrant

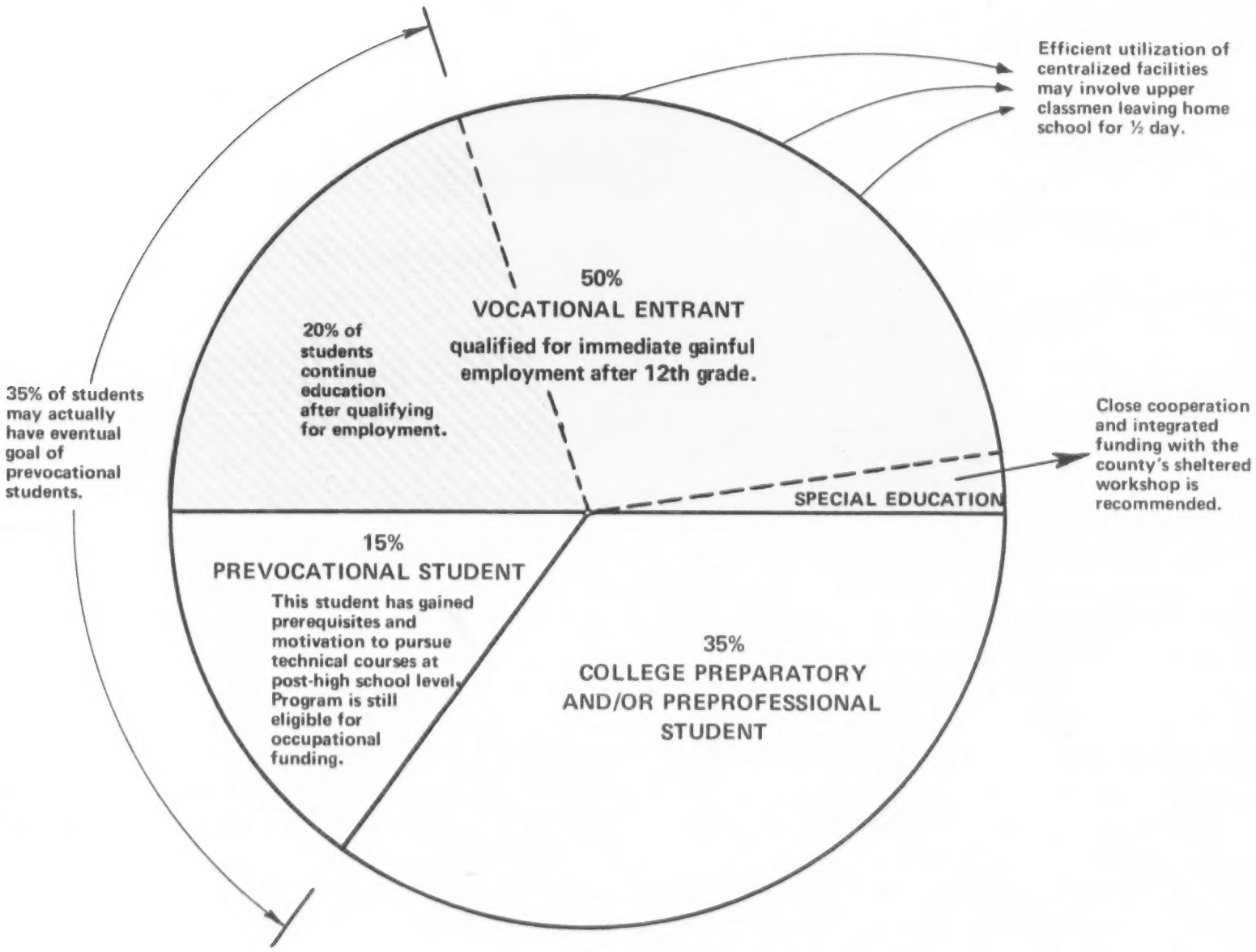
Nationally, the percentages of students in these categories of college preparatory, prevocational, and vocational entrant have been estimated to be approximately equal when appropriate programs are established. (See Chart 16.) If one classified students as to their interest, there would be overlap among the categories. A diversified program provides guidance where the overlap occurs. It is interesting to note that this philosophy does not allow a student to enter that large group of students who are undecided about their goals, although certain methods of administration do offer opportunity to change.

The programs now being encouraged with federal and state funds consider occupational education to start earlier and encompass more students than the vocational programs of the past. The new programs retain the criteria of giving job-entry skills to

CHART 16

PER CENTS OF STUDENT BODY WITH VARIOUS GOALS FOR FUTURE

(Although figures are based upon desirable national figures, these figures could well apply to every high school in Iredell County, including Statesville and Mooresville.)


Efficient utilization of centralized facilities may involve upper classmen leaving home school for ½ day.
50%
VOCATIONAL ENTRANT
qualified for immediate gainful employment after 12th grade.
20% of students continue education after qualifying for employment.
35% of students may actually have eventual goal of prevocational students.
Close cooperation and integrated funding with the county's sheltered workshop is recommended.
SPECIAL EDUCATION
15%
PREVOCATIONAL STUDENT
This student has gained prerequisites and motivation to pursue technical courses at post-high school level. Program is still eligible for occupational funding.
35%
COLLEGE PREPARATORY AND/OR PREPROFESSIONAL STUDENT

the student who spends a large portion of his time in the job program; this concentration distinguishes the new programs from traditional industrial arts courses which taught hobby skills, but few skills for gainful employment.*

Occupational education is a program which combines introductory vocational education, trade and industrial education, agricultural education, industrial cooperative training, distributive education, special education, business and office education, industrial arts, and home economics. It involves, but often does not fund, departments in fine arts, science, mathematics, social studies, and other departments which may wish to modify their program for noncollege students. The concept of occupational education denotes a change from the expensive vocational education for a select few and the usually associated inadequate job preparation given through many industrial arts and home economics programs. Occupational education may imply preparing approximately 50 per cent of students for gainful employment immediately after graduation from high school. Twenty per cent of these students may wish to go on to technical or junior colleges full or part time. Attaining job skills could also aid students if they must pay their way through higher education. Other students (possibly 15 per cent) in the high school could be stimulated (but not fully trained) by the occupational

*It was not intended that industrial arts education be as it usually is today. It originated as a city counterpart to vocational agriculture in some instances and sometimes as a program for those denied entrance into highly selective regional vocational schools. Industrial arts education began with noble designs of (1) giving marketable, generalized skills to high school graduates for industry, (2) giving all students an appreciation of modern industrial management and production skills, and (3) providing basic skills with certain tools and procedures. Home economics was a counterpart for girls mainly to give training for future homemakers and consumers. Homemaking was rarely occupationally oriented. Industrial arts and home economics students usually spent one to two hours a day on an elective, or required, one-half to one-year course basis, whereas vocational students spent four hours a day in shops. Obviously, the industrial arts student was not able to build as good a repertoire of skills as vocational students.

program so that they may wish to pursue postgraduate technical courses in the regional vocational school, junior colleges, and four-year technical colleges. (See Chart 16 for further explanation.)

The remaining 35 per cent of the students will be college preparatory, optionally gaining an entry skill for business or industry. Aside from a financial advantage in possessing a marketable skill, the college preparatory student becomes well rounded and more certain that college, rather than a technical-vocational future, is for him. Rather than meeting failure in an academic atmosphere, many bright students choose a successful route in occupations heretofore unknown to most students. For the college-bound youngster, occupational education gives added awareness of occupational choices and allows him to associate with and appreciate the non-college-bound student in class activities. Skills gained in occupational courses are extremely useful in an area like Iredell County where many home owners service their own needs and sometimes engage in farming or landscaping. Avocational training is a direct result of occupational programs.* It should be noted that with a fully operational program in occupational education (see Chart 16), there is no "general curriculum" student. Your consultants recommend adoption of the integrated programs of "occupational education" rather than those of traditional vocational or industrial arts education.

---

*There is evidence that the present vocational agriculture programs are highly successful as avocational courses, even to the extent of being elected in their entirety by some college preparatory students. When this happens, careful guidance must be given to the students in selecting colleges. For example, some colleges require a foreign language for entrance; the college preparatory student who elects a full agricultural program may not have time in high school to fulfill such a requirement.

There are many ways to schedule students: half-day and five-period students may be combined in classes or separated by morning and afternoon blocks of time. There are advantages to both systems; the mixing of students in the same class offers a social advantage at the heart of occupational program theory. Concurrent teaching allows students to gain respect and understanding for one another no matter what specialized program they elect, college preparatory or technical. Concurrent teaching also permits half-day students to help the teacher in a project-centered curriculum catering to individual progress. Half-day students can help five-period students and soon a dialogue may begin. Others claim that teachers find it more convenient to have classes homogeneous in ability to comprehend theory. The director and his teachers should find which scheduling arrangement works best. Each course may have a "five- or ten-period" curriculum which is not job entry oriented, but rather avocational or pre-vocational. Occupational courses open to juniors and seniors in North Carolina are in the specialization stage. We are suggesting two types of specialized courses: one is the concentrated specialization (half-day student), and the other is the acquaintance specialization (five- to ten-period student). Juniors and seniors (possibly sophomores) can elect a half-day program. The hours per day can be flexible. Eventually skill levels rather than the time spent in class should be the standard of achievement.

What Type of Facility is Appropriate?

For an occupational education program, the proper facilities must permit dual use of most shops and rooms by half-day students and five- to ten-period students. This does not allow busing of students, except in the most advanced stages.

Your consultants suggest that basic facilities should be added to all existing schools. Basic facilities are the least expensive spaces to equip and provide introductory courses for freshmen and sophomores. Advanced facilities which do not involve expensive equipment can also be added in local schools where needed. In these advanced, local facilities, avocational education can accompany half-day student programs and use of facilities be made by related departments.*

Advanced and extremely expensive facilities should be provided at a centralized facility. An alternative to this strategy is to allow each school to specialize in one advanced, expensive area and to bus students for portions of the day to various schools. There are disadvantages to this alternative: it requires more involved and longer bus routes; it also may not succeed because some students may be reluctant to participate in classes at a "rival" school. Maps 7 and 8 illustrate the alternatives of these plans.

Your consultants recommend the construction of a centralized facility to include only advanced and expensive facilities for concentrated specialization courses. Other courses would be given at the local high schools. Cooperative Training Programs can supplement advanced instruction at the employer's site of business; such programs are economical and have up-to-date experiences.

The site of the centralized facility should be near Interstate Route 77 to facilitate busing from the high schools. Location near Interstate 40 is not important since no high schools are located on that route. Location in the southern portion of the County would place it in the seat of population and would allow a northern counterpart to be constructed in the future.

---

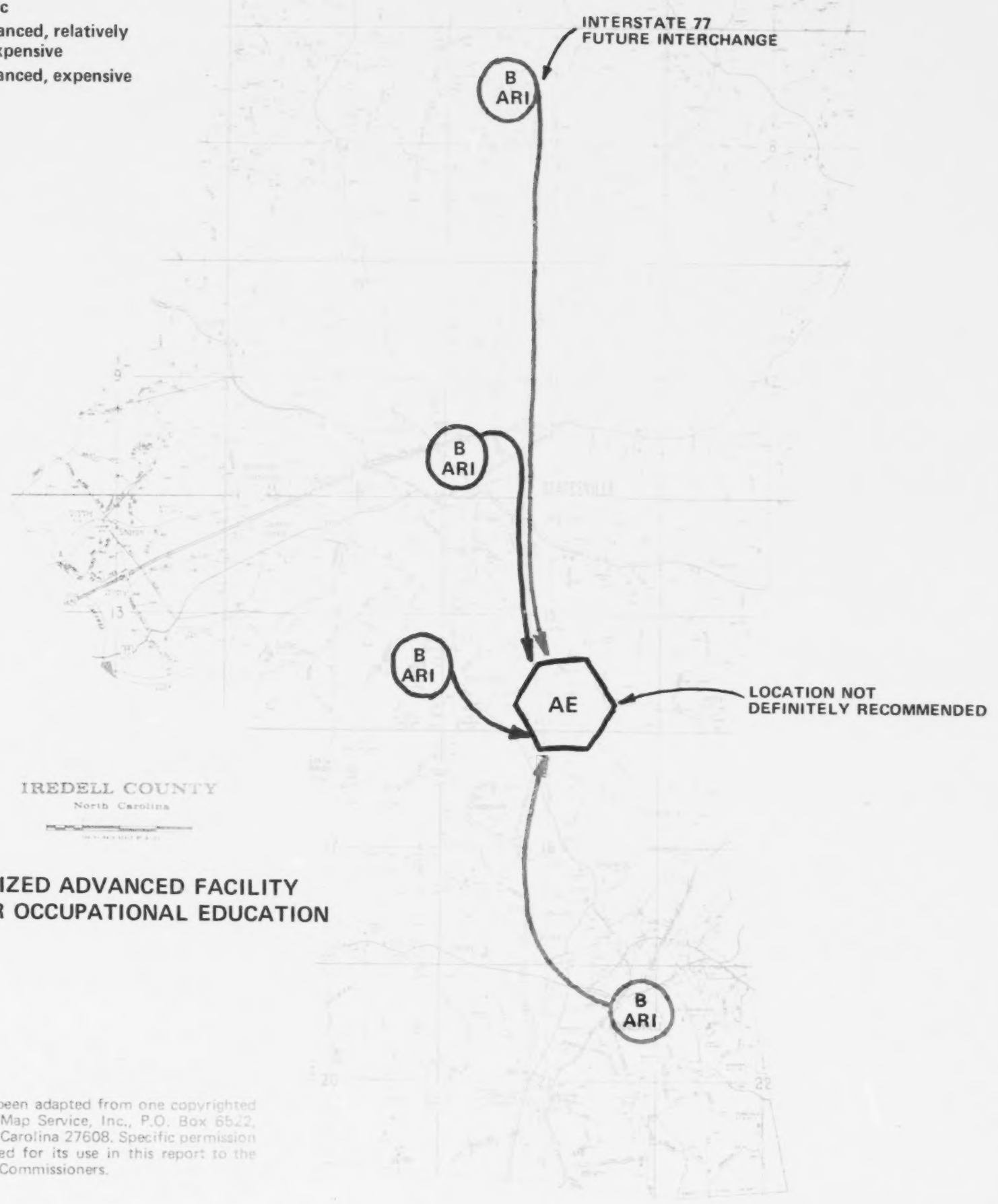
*For instance, the physics teacher may wish to expose his students to equipment in the air conditioning-refrigeration program.

Key to facilities:

B = basic

ARI = advanced, relatively inexpensive

AE = advanced, expensive



MAP 7

CENTRALIZED ADVANCED FACILITY PLAN FOR OCCUPATIONAL EDUCATION

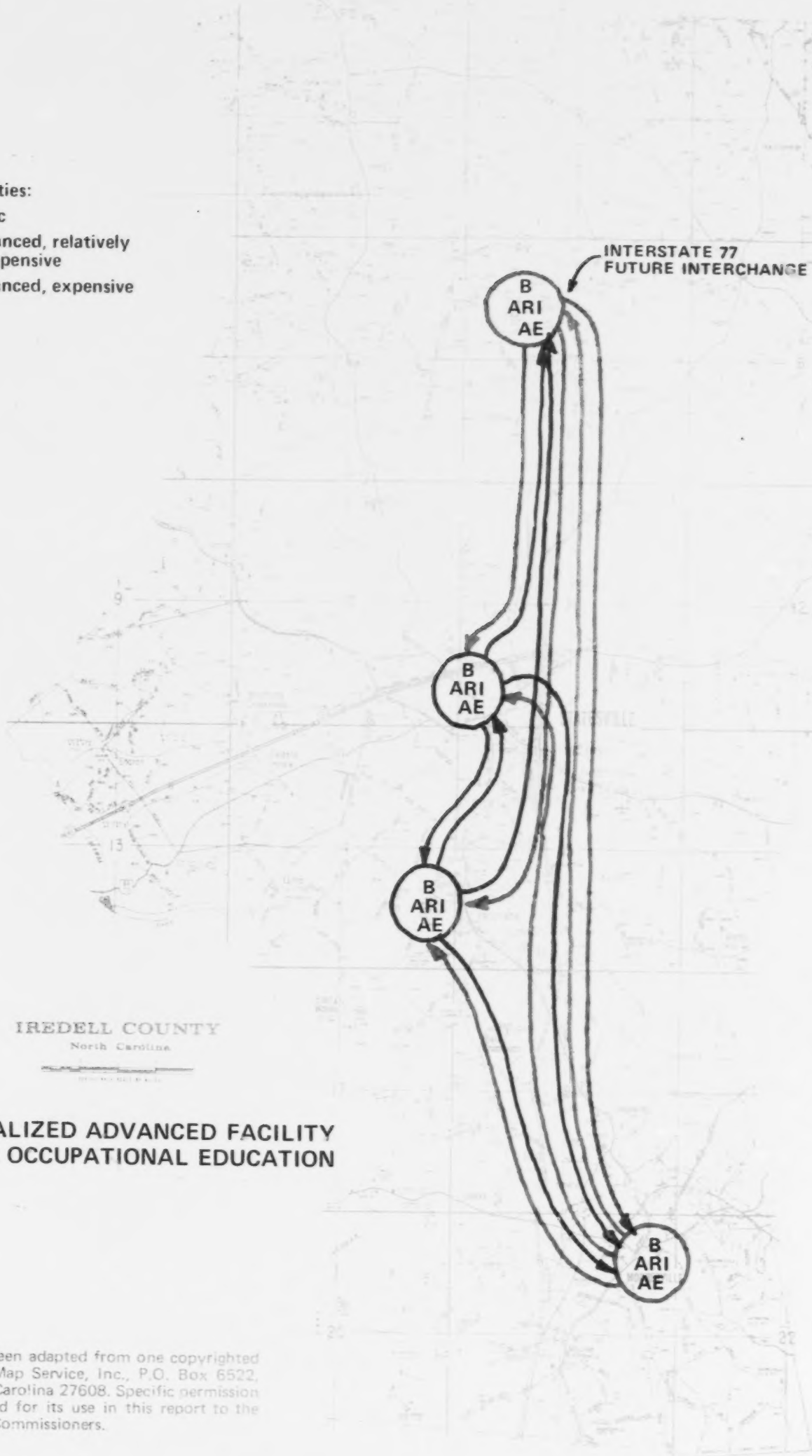
This map has been adapted from one copyrighted by Champion Map Service, Inc., P.O. Box 6522, Raleigh, North Carolina 27608. Specific permission has been granted for its use in this report to the Iredell County Commissioners.

Key to facilities:

B = basic

ARI = advanced, relatively inexpensive

AE = advanced, expensive



IREDELL COUNTY
North Carolina

MAP 8

DECENTRALIZED ADVANCED FACILITY PLAN FOR OCCUPATIONAL EDUCATION

This map has been adapted from one copyrighted by Champion Map Service, Inc., P.O. Box 6522, Raleigh, North Carolina 27608. Specific permission has been granted for its use in this report to the Iredell County Commissioners.

The County now owns two properties suitable for a centralized facility: The Unity School and the old County Home property. There would be an advantage to erecting a brand new building for occupational education on a southern site. It need not be placed on present County property; a trade of property or compensating sale could possibly be made. The Unity School property will eventually be extremely valuable because of its location near the crossroads of two interstate routes. If not sold, the County's sheltered-vocational workshop (as a joint special education, vocational rehabilitation and occupational program) could use these facilities. Child care occupational programs could also be located here. It is advantageous for special education and child care programs to have easy east-west access as well as north-south access. (This is not the case with the centralized occupational facility.)

What Types of Courses Are Recommended?

The current programs of Industrial Cooperative Training and Distributive Education (D.E.) which now are the largest programs of vocational education in the County, will be the capping stone to most programs offered. Cooperative Office Occupational Programs should also offer practical experience on the job. Although coordinators will be needed, follow-up on the job may be done by specialists in the job area. There will be more students on jobs during their twelfth grade year, but fewer lower classmen because schools will be giving in-house training. (Distributive Education may be an exception in the general sales area.) The nature of cooperative training may change so as not to be attractive solely because students get paid; experience to gain marketable skills is the

key attraction of our future cooperative training program. For those students needing money, a work-study program on less skilled jobs can be started; this program requires less supervision by the school and does not usually lead to high paying jobs. Cooperative training programs should be combined in all three areas - industrial, commercial, and business-office - under one cooperative training coordinator. Work-study programs may be under another agency, such as guidance. The program of studies to be offered must be finalized by the Director of Occupational Education, the advisory council, and a planning council as suggested in the State's Handbook for Use in Planning Occupational Education Programs. Your consultants will suggest consideration of certain areas for instruction. Employment opportunities shift as one produces graduates. Some programs should be phased in and out of the curriculum as demand varies for graduates. One also notes that some courses contain a cluster of occupations, enabling the graduate to adapt to shifting labor demands. Other courses start out as isolated occupations, but may eventually develop into a cluster. The nature of the staff and director, plus the state of vocational analysis, will determine the degree of clustering available.*

Introductory or Survey Courses

In the State of North Carolina, the phrase "introduction to vocations" has specific meaning. It refers to a choice of three specific courses given at the ninth grade level:

Introduction to Vocations - 7001
Home Economics 1-711.1 or 711.2
Introduction to Agriculture - 701

*Clusters can be based on abstract aptitude similarity, not outward skill similarity. For instance, machine shop and surveying may be clustered on the basis of aptitude for mathematics. Such theoretical clustering has its problems at the moment.

Modification of this specific implementation may be desirable for the following reasons:

1. Every introductory course should be geared to giving a well rounded picture of occupational roles in our society; this picture must erase any old ideas of sex roles. An example of this is the increasing employment of women in cabinetmaking and milling operations. Although Introduction to Agriculture is a suitable preparation for cabinetmaking, it is probable that girls will not be shown this occupational opportunity if vocational agriculture is the only introductory option aside from home economics.

2. In agricultural areas like North Iredell, the detailed expertise used in teaching Introduction to Agriculture is needed. This course has proved useful as a substitute for industrial arts and as a needed prerequisite for more advanced shop work; its graduates fit well into nonagricultural occupations. School systems offering this course (701), however, should broaden the curriculum (within or apart from the existing course 701) to accommodate students interested in areas not closely allied to agricultural concerns such as health occupations, textile manufacture (including synthetics), large-scale transmission and generation of power, transportation routing, etc. It would not be difficult to restructure the agriculture program to involve more girls and include a complete spectrum of occupations. Agriculture is so broad in interests that a few other topics could be easily included. Possibly the feeder schools to North Iredell High School could begin the Introduction to Vocations courses in eighth grade, allowing the successful shop course in 701 to be given. Membership in Future Farmers of America should be required not only for those seriously thinking of agriculture as an occupation but should be open to all as an excellent training ground for citizenship and avocational interests.

3. In the existing home economics courses, needed homemaking skills are being taught, but proper aids and sophisticated planning are lacking to give girls career guidance. Girls and boys need skills associated with maintaining a family and house, but there is not enough time to teach these and a survey of occupations in one year. Future Homemakers of America is essentially not an occupationally-oriented club as is Future Farmers of America.

4. It is very possible that the State is trying to accomplish too much in one year (ninth grade) in its Introduction to Vocations. Home Economics is not the only introductory course caught in a time dilemma. Agriculture 701 gives basic shop safety and skill instruction which enables eventual attainment of home maintenance skills; it is tightly scheduled to give a broad picture of occupational opportunities in modern society along with elementary management skills. Introduction to Vocations must be modified in order to train in home maintenance skills; Mooresville has achieved a rather successful modification. It is apparent that one year is too short a time to do a successful job in teaching basic skills, awareness of job opportunities in our nation, and economic literacy.

North Carolina's ninth grade course in Introduction to Vocations has many worthy goals. The course will be most productive if it has been prefaced with an elementary and middle school program involving economic and occupational education. The high school should develop marketable skills and the general survey courses should be eventually given in the middle school or junior high school. Guidance is also a function of the high school occupational curriculum, but here the guidance is a product of specialized in-depth experiences.

5. Active involvement in addition to vicarious experiences should be part of the survey or introductory courses. Mooresville's adaptation of the State's Introduction to Vocations course appears to present some excellent experience for the County.

We suggest an inclusion of occupational education in grades one through eight. Economic theory is being taught elsewhere in the primary and intermediate grades. Occupational awareness can be seeded in elementary and middle school grades and be strengthened with active experience in eighth and ninth grades.

Exploratory Courses (Tenth Grade)

Exploratory courses offer practical skills and knowledge in certain areas. (The term "exploration" is used technically in North Carolina education; it refers to tenth grade introduction to clusters of occupations.) In some instances, the existing course syllabuses

in the State may not give detailed training. When possible, specific training should begin at this grade level. For instance, the current one period course, Introduction to Industrial Education, could be given along with a course in drafting and woodworking. The student must be given a chance to experience success and failure with various areas in order to pick his specialization in eleventh grade. These courses could be given in the facilities listed as recommended for specialized courses. The exploratory course for a cluster of occupations could involve the facilities used by students in that specialization.

Specialization Courses and Clusters

"Specialization" is a technical term in North Carolina for advanced junior and senior year courses in occupational education. Where at all possible, specialization courses should be open for five- to ten-year period students without prerequisites in occupational education. For instance, agricultural chemicals 705.8 should be open to anyone having biology and chemistry, but not agri-science and mechanics 702. Safe behavior is often given as a reason for prerequisites. Provision should be made to avoid the necessity for a full year's prerequisite course to teach safety requirements. The acquisition of safety skills could be a common course in the introductory phase or could be given in a few weeks, prior to entrance into the full course.

With the entrance of the five- to ten-period student into these courses, there are actually two courses for each of the State-suggested specialization courses:

1. Concentrated specialization
2. Acquaintance specialization

Acquaintance specialization courses will be taught to any individual student for a shorter period of time than concentrated specialization courses, but the shops and topics will be much the same. For instance, an eleventh grade college preparatory student may elect an introductory course in bricklaying-masonry or a construction trades cluster; he will receive enough training to do home repairs and minor construction. In the same shop a half-day student will be perfecting his skills and possibly teaching the five- to ten-period student who is taking it as an acquaintance course.

We suggest the following offerings for job-entry skills and general education:

Human Services Cluster

Occupational Objectives:

Vocational entrant:

- Nursery school and primary school aides
- Day care center worker
- Nurse's aide
- Recreation aide
- Geriatric care worker
  - - aide in geriatric hospital or convalescent home
  - - resident or nonresident companion for elderly people at home

Prevocational or Preprofessional:

- Licensed practical nurse
- X-ray technician
- Laboratory technician (with chemistry)
- Registered nurse
- Medical receptionist (with some business)
- Dental assistant
- Dental hygienist
- Physical therapist
- Teacher
- Mortician

Program Notes:

This program will concentrate on vocational entrants, but these students may wish to further their education at a technical institute, hospital, or college. The program will deal with care of young children and care of the elderly. Aside from theory courses in psychology, geriatric care can be taught in a cooperative training program. Child care might be taught in a centralized facility if a vacant, convenient building is available. The best location is adjacent to the comprehensive high school so that an acquaintance course in child care can be given. Nurse's aide training may also involve cooperative training. Space needed: for 10 high school students (not all present in room at once - some observe, etc.) and 15 to 20 students, we suggest 1,200 square feet. A small, fenced-in outdoor playground is needed. Office and preparation area may be 800 square feet.

Estimated Cost:

$45,000 per unit; at least $10,000 of this is equipment. This will serve 20 half-day students per year, or 10 half-day and 80 five-period (one-half year) students per year.

Location:

Unity, Mooresville Junior High School, and South Iredell.

Textile Cluster (limited to manufacturing - no research)

Occupational Objectives: (illustrative, not complete)

Industry is not yet ready to specify specific occupations in this facility. It will supply the equipment to duplicate textile manufacturing operations. The size and details of training should be worked out with local industry. The cluster operates under U. S. Office of Education instructional program code 17.3399 which can involve the following occupational objectives:

DOT Code	Occupational Title
580.782-014	Weft straightener
582.782-030	Slasher tender
587.886-010	Hebdon-machine-sponger-helper
680.885-022	Comber tender
680.885-034	Drawing-frame tender
680.885-038	Finisher-cord tender
680.885-066	Picker tender
680.885-074	Picking machine operator
681.137-010	Foreman, preparation dept.
681.137-014	Foreman, winding and twisting department
681.280-014	Machine fixer
681.685-010	Covering-machine-operator-helper
681.687-010	Thread inspector
681.687-014	Yarn examiner
681.782-010	Dresser tender
681.885-010	Ball-warper tender
681.885-018	Beamer
681.885-030	Covering-machine operator
681.885-034	Doubling-machine operator
681.885-038	Gas-reel tender
681.885-042	Long-chain beamer
681.885-046	Precise winder
681.885-054	Quilling-machine operator, automatic
681.885-106	Thrower
681.887-010	Warp boy, sorting
682.137-010	Foreman, spinning
682.887-010	Traveler changer
683.280-018	Loom fixer
683.380.014	Loom changer
683.380-018	Loom starter
683.384-010	Pattern-lease inspector
683.781.010	Chain builder, loom control
683.782-050	Weaver apprentice
688.387-010	Cloth grader
689.384-010	Cloth tester, quality
781.687-014	Cloth examiner, hand
781.884-034	Cutter, rotary shear

Although this list is not exhaustive, it approaches being exhausting. If the apparel industry is considered, the list may be expanded with sewing machine operators, cutters, and others. Whether or not to distinguish between these occupations is a decision for the industrial advisory committee. Another method for classification is using Worker Trait Groups. Within the textile industry the following groups exist (occupational codes from the above list are given as examples).

Worker Trait Group	Example DOT Code
Operating-controlling	580.782-014
Feeding-offbearing	587.886-010
Tending	680.885-022
Set-up or machine operator	681.280-014
Supervisory	681.137-014
Inspection and stock clerk	688.387-010
Sorting, inspection, related work	781.687-014
Precision work	683-781-010
Handling	682.887-010
Manipulating	781.884-034

The Employment Security Agency may offer help in sorting out aptitude clusters associated with worker trait groups.

Program Notes:

A cooperative training program might be an outgrowth of limited opportunity of the centralized facility. The centralized facility would cultivate a knowledge of the industry and entire operation necessary for eventual promotion to middle management levels.

The North Carolina Department of Public Instruction recognizes three textile courses at the moment:*

#7390 Textile Industry
#7883 Industrial Textiles
#7884 Industrial Textiles

Estimated Cost:

$20,000 for a prefabricated building to house equipment possibly donated by industry.

Location:

The centralized facility

*Division of Vocational Education, North Carolina Department of Public Instruction, Vocational Education Opportunities for North Carolina Public Schools 1969-70, p. 15.

Agricultural Cluster

Occupational Objectives: (illustrative, not complete)

Vocational entrant:

Business manager
Farm manager
Agricultural construction
(machine installer, carpenter, electrician, plumber, mason, bricklayer)
Equipment repair technician
Dealer, salesman - farm equipment
Small motor repair technician
Nursery worker, foreman
Landscaper
Greenhouse manager
Florist
Forester aide, technician
Greensman
Veterinary assistant
Feed salesman
Agricultural supply salesman
Poultryman, poultry breeder
Farm hand, dairy
Vegetable grower
Meat and food processor, slaughterer
Harvest contractor
Exterminator

Prevocational or Preprofessional:

Farmer
Laboratory technician
- - veterinary
- - soil analysis
- - food inspection, pesticide residues
Veterinarian
Livestock and meat inspectors
Forestry vocations
- - wood technologist
- - forester (private)
- - ranger (government)
Conservation vocations
- - soil conservationists
- - hydrologists
Rural sociologist
Home economist
Agricultural economist
Plant physiologist
Ecologist

Program Notes:

It is evident that the type of vocational entrant occupation listed has limited job openings, although prevocational and professional preparation leads to more open careers. The ability of vocational agriculture graduates to adapt to vocations tangential to their training has proved that this program can be supported by enrollees for whom no agricultural job opening exists. The program should be provided to service what is still a significant factor in the economy and life style of Iredell County. The agriculture department is

looked upon as one resource for information and technique demonstration by adult farmers in the area. The new entrants into agriculture are willing to learn more from agricultural teachers than from fathers - a natural situation which is an important aspect in a family-dominated agricultural community. By State directive, "adult farmer education is the responsibility of agricultural teachers. These teachers must be given time and resources to conduct such adult education."*

The consultants found sufficient evidence that suggests that in North Iredell, the need exists for such a full agriculture program. The program should be considered from several aspects:

1. Preparing students for job entry

2. Upgrading aptitudes and attitudes for diverse jobs

3. Providing avocational skills and knowledge

4. Preparing students for entry into agricultural programs of four- and two-year colleges such as Wilkes Community College programs in food processing, agri-business, and agricultural equipment.

The program must be flexible so as to guide the inevitable changes in the region's agriculture. Dairying will probably remain strong, but poultry and hog farming are rapidly becoming a major aspect of agriculture in the County. Beef production is a strong avocational or part-time activity. Perishable vegetable and fruit growing may become economically advantageous as the population increases. Suburban application of agricultural skills in nursery and landscaping will also be an increasingly profitable venture.

The landscaping and nursery program could operate out of South Iredell High School (as well as North) and be given by an itinerant teacher at Statesville and Mooresville. The school system's property could serve as practice area for students in the course. Nursery stock could be grown at South Iredell High School. The market for such skills will be pronounced in the southern portion of the County.

Eventually, the horticulture program could supplement the biology curriculum in all schools so that science became a process of inquiry and experimentation rather than a depository of knowledge. Greenhouses or artificially lighted growth rooms could be added to all high schools. Rather than pure avocational

*ibid., p. 3. The same statement applies to home economics.

instruction without scientific theory, these facilities should allow botanical experimentation. The technical knowledge of the present agriculture teachers could serve the science department. This infusion of occupational education into academic subject areas will take time and organization.

Estimated Cost:

Presently being operated, but additional facilities should be built by agriculture students, with costs of materials being borne by system. Some equipment might also be purchased. Approximately $18,000.

Location:

Complete program: North Iredell High School with a cooperative training program in North Iredell Farms.

Landscaping, nursery: Itinerant from South Iredell High School.

Automotive Industry

Occupational Objectives:

Vocational entrant:

- Used car renovator
- New car get-ready man
- Shop and insurance estimator
- Automobile body repairman
- Painter, automobile
- Automobile mechanic
- Front-end man
- Tune-up man
- Radiator man
- Electrician, automotive
- Stock clerk - parts man

Prevocational or Preprofessional:

- Transmission mechanic
- Aircraft and engine mechanic
- Diesel mechanic
- Truck driver
- Bus driver

Program Notes:

Several State-approved programs of studies are in existence:

Course No.	Title
7511-7512	Auto body and fender repair
7521-7522	Automotive engine tune-up
7531-7532	Automotive mechanics
7541-7542	Internal combustion engines
7544	Service attendant - automotive
7545	Service specialist - automotive
7310	Automotive industry

U. S. Office of Education instructional program codes 17.03, 17.0301, and 17.0302 have the following descriptions suitable for our program:

Automotive Services

Instruction in general provides classroom and shop experiences which include training in all phases of automotive maintenance repair work on all types of automotive vehicles. Included is training in the use of technical manuals and a variety of hand and power tools. Instruction and practice are provided in diagnosis of malfunctions, disassembly of units, parts inspection, and repair or replacement of parts involving engine overhaul and repair, ignition systems, carburetion, brakes, transmission, front end alignment, body and fender repair, and the installation of a variety of accessories such as radios, heaters, mirrors, and windshield wipers.

Body and Fender

Instruction in work provides specialized learning experiences concerned with all phases of the repair of damaged bodies and fenders, including metal straightening by hammering; smoothing areas by filing, grinding, or sanding; concealment of imperfections; painting; and replacement of body components, including trim.

Mechanics

Instruction in auto provides learning experiences concerned with the components of the vehicle, including engine, power transmission, steering, brakes, and electrical systems. Included is training in the use of diagnostic and testing equipment and tools used in the repair process.

Estimated Cost:

Approximately $75,000 (construction and equipment) for 40 half-day students per year. An additional specialized body and fender work course could be offered for relatively slight increase in cost.

Location

At the centralized facility

Machinist Training and Machine Drafting

Occupational Objectives:

Vocational entrant: (by worker trait group only)

Set-up or machine operator	Operating-controlling
Drafting and related work	Precision work
Crafts and related work	Inspection and stock clerk
Manipulating	Tending

(Occupational titles can be found elsewhere)*

Preprofessional (U.S.O.E. Code 16.011302 and 17.13):

Tool designer (DOT Code 007.081-066)
(Engineering research and design worker trait group)
Die designer (DOT Code 007.181-014)

Program Notes:

Local industry should guide this program closely and may possibly donate some equipment. Aptitude training with general skills is the product of this shop. Specific skills are polished with the ancillary specialization which is part of the drafting and design curriculum, but on-the-job training should be used for polishing skills of machinists. The U.S.O.E. instructional program in machines shops gives specialized classroom and shop experiences concerned

*Office of Education, U. S. Department of Health, Education and Welfare, Vocational Education and Occupations - OE80061, 1969, pp. 149-154.

with all aspects of shaping metal parts. Instruction involves making computations relating to work dimensions, tooling, feeds, and speeds of machining. Also emphasized are: work on the bench and on lathes, shapers, milling machines, grinders, and drills; uses of precision measuring instruments such as layout tools, micrometers, and gauges; methods of machining and heat treatment of various metals; blueprint reading; and the layout of machine parts. Instruction prepares the pupil to operate and repair many machines. Related work may occur in the textile shop.

North Carolina has approved courses relating to this program:

Machine Design - 7654
Machine Shop - 7911-12

Estimated Cost:

Approximately $125,000 for building and equipment - could easily be more.

Location:

At the centralized facility

Drafting and Design Curriculum

Occupational Objectives:

Vocational entrant:

- Electrical draftsman
- Sheet metal, heating, air conditioning draftsman
- Furniture draftsman
- Interior design draftsman
- Architectural draftsman for printers and general firms using visual aids, graphic arts worker
- Pattern grader (apparel)
- Pattern maker (apparel)
- Layout, marking, cutting (textile)
- Landscape draftsman
- Surveying and plot planners - topographical draftsman

Prevocational and Preprofessional:

Engineer
Designers, interior, furniture, textile, landscape
Architect
Estimator and draftsman - DOT Code 003.281-022
Design checker - DOT Code 007.187-010
Mining draftsman - DOT Code 010.281-026

Program Notes:

The drafting and design curriculum can work in conjunction with courses being offered at all high schools. The drafting and design curriculum emphasizes what it can do in each school. For instance, South Iredell may be the only school giving landscape design instruction in conjunction with its vocational agriculture course in landscaping. North Iredell may be able to do more with the topographical drafting instruction in conjunction with terracing and contour plowing units. (It is suggested that vocational agriculture and the construction course in Mooresville introduce students to surveying where personnel exist who can teach the skill.)

Statesville has existing facilities to implement a team taught course in most areas. Mooresville may wish to give the only textile design unit. The centralized facility will offer machine drafting and design in conjunction with its machine shop.

Chart 17 illustrates the suggested sequence of courses. A large number of college preparatory students will take these courses. The courses will be taught in small groups meeting simultaneously in preferably large rooms allowing 40 students and two instructors.

The State-approved course, 7250, Commercial Art (Distributive Education) would fall under this program.

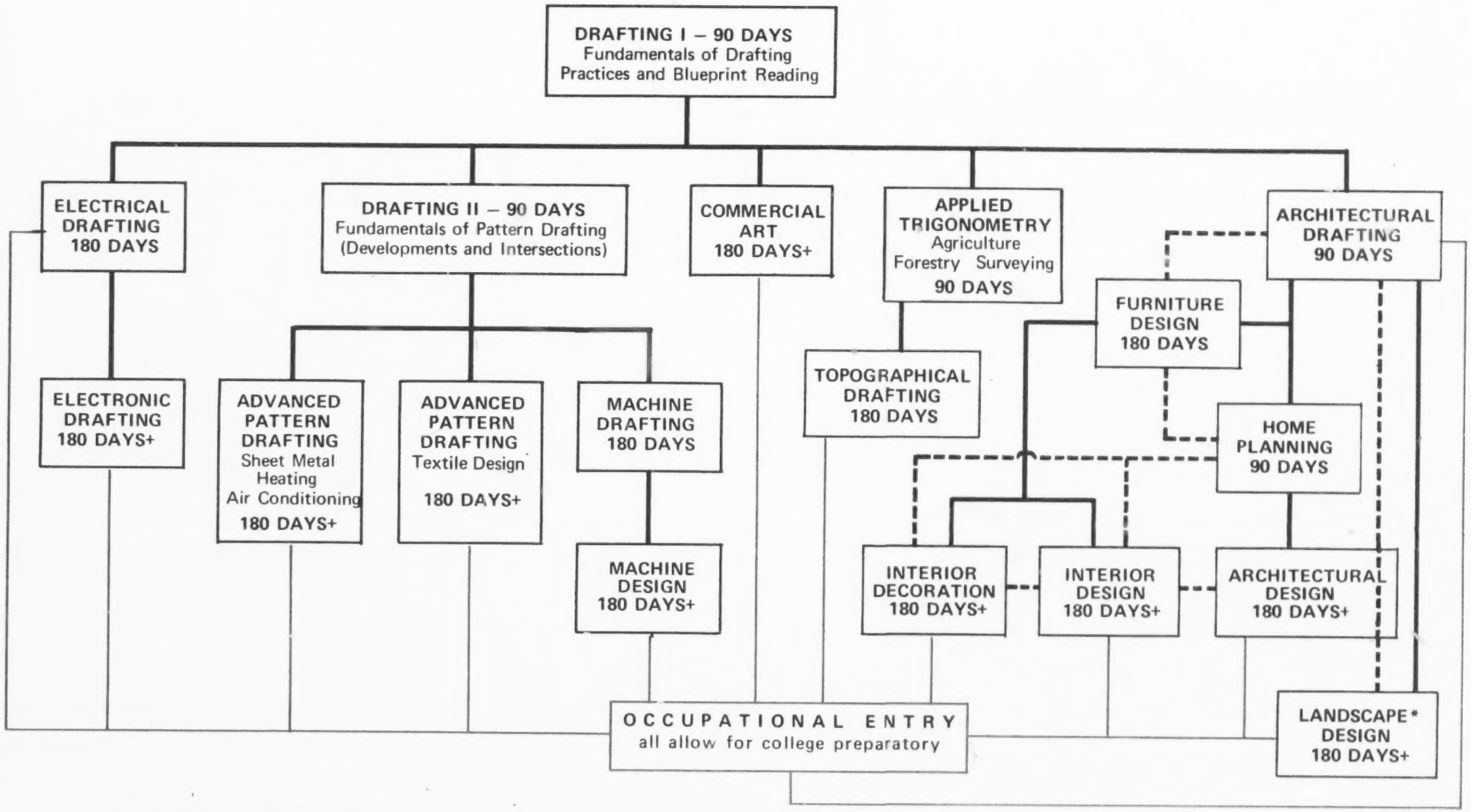
Estimated Cost:

Use existing facilities, add some equipment - $5,000. A unit for 40 students may cost $18,000 to build.

Location:

At each high school and the centralized facility.* Topographical and surveying - North Iredell and Mooresville. Landscaping design - South Iredell. Textile design - Mooresville.

*Expense for centralized facility included in machine shop cost.



A student may start at 9th grade and up.
Exceptions might be made for 8th graders showing talent.
Individualization allows flexibility for particular students in regard to time.
Time duration based on one period per day.

*Landscape designers would profit from a vocational agriculture program.
This leads to a five-year college program in North Carolina.

CHART 17

DRAFTING AND DESIGN CURRICULUM

FOR IREDELL COUNTY, NORTH CAROLINA

Engelhardt and Engelhardt, Inc. – Educational Consultants

Construction Trades Cluster

Occupational Objectives:

Vocational entrant:

Note: The approved programs of studies for this cluster in North Carolina are self-explanatory as to entrant objectives. They are listed below:

Construction industry (7330)
Bricklaying (7611-12)
Cement finishing (7613)
Carpentry (7631-32)
Painting and decorating (7641-42)
Plumbing (7671-72)
Electrical installations - residential (7743)
Electrical installations - commercial (7744)
Sheet metal (7921-22)

Program Notes:

Cooperative training may add specialization. Many students will enter the apprenticeship programs. We would anticipate high acquaintance specialization courses. Agricultural construction is an excellent survey course of related nature for ten-period students. Blueprint reading is a needed skill, possibly learned in conjunction with the drafting and design program. Facilities should allow practice during inclement weather in order to attract visiting consultant help which is hard to place on full-year status.

Estimated Cost:

$35,000 - to house an indoor concrete slab area of at least 4,500 square feet for erecting buildings. This could train 40 half-day students per year. Some existing facilities could be used.

Location:

At most high schools. Agricultural construction may substitute for this at North Iredell except when training becomes very specialized (such as just electrical installation for one year) at other schools.

Cabinetmaking, Custom Carpentry
(Office of Education Instructional Program Nos. 17.001, 17.3601, and 17.3699)

Occupational Objectives:

Vocational entrant:

- Carpenter, maintenance
- Boat builder, wood
- Cabinetmaker
- Furniture finisher
- Assembler (762.884-010)
- Cabinet assembler (762.884-030)
- Repairman (769.884-022)
- Furniture assembler (763.884-034)
- Mobile home installer (806.884-078)
- Door assembler (762.884-038)
- Various woodworking machine operators
- Wood products repair craftsman

Program Notes:

This program should contain elements of home maintenance and remodeling as well as shop and classroom experience in mass production phases of work. Furniture repair and custom carpentry done on an individual basis (such as custom kitchen cabinetry) is a marketable skill. Usual programs involve classroom and shop experiences concerned with the woodworking occupations other than constructive carpentry. Instruction emphasizes laying out and shaping stock; assembling complete wooden articles or subassemblies; marking, binding, sawing, carving, and sanding wood products; and repairing wooden articles. Also emphasized are various hand and power tools and their uses.

Mill work and cabinetmaking specifically provide for specialized class and practical work experiences concerned with mass production of products such as window frames, moldings, trim, and panels; and with making such products as furniture, store fixtures, kitchen cabinets, and office equipment. Instruction includes training in cutting, shaping, and assembling parts by means of hand tools and woodworking machines; refinishing furniture; installing hardware - e.g., hinges, catches, and drawer pulls; planning layouts; blueprint reading; drafting; and features of various kinds of woods. Cooperative training programs will acquaint students with specialized procedures under highly skilled workers.

Estimated Cost:

$38,000 per unit, cooperative training to lessen cost in Statesville and North Iredell. Upholstery may be added eventually to this cluster.

Location:

South Iredell, North Iredell, Mooresville, and small installation at Statesville.

Small Appliance, Heating, Ventilating, and Air Conditioning Service Cluster

Occupational Objectives:

Vocational entrant:

- Small motor repair mechanic
- Dealer, service manager in retail establishment
- Household and farm appliance installer
- Oil burner installer and serviceman
- Air-conditioning mechanic, domestic
- Air-conditioning mechanic, commercial
- Air-conditioning mechanic, automobile
- Refrigeration mechanic
- Furnace installer
- Humidifier attendant (textile, tobacco)
- Household appliance repairman
- Electrical appliance serviceman
- Plumber apprentice

Prevocational and Preprofessional:

- Aircraft mechanic, heating and ventilating
- Engineer

Program Notes

The following U.S.O.E. instructional program descriptions suggest suitable programs. Your consultants heard much vocal support for increased training of servicemen in the area. This cluster prepares a graduate to adapt in the event of a possible labor surplus in one area (such as oil burner serviceman). No student should specialize in only a limited skill repertoire. The facility may alternate instruction every other year or it can be team taught.

Air Conditioning (U.S.O.E. Code 17.01)

Classroom and shop experiences which enable the student to become proficient in the installation, repair and maintenance of commercial and domestic air conditioning systems. Included is instruction in the theory and application of basic principles involved in conditioning of air - cooling, heating, filtering, and controlling humidity; the operating characteristics of various units and parts; blueprint reading; the use of technical reference manuals; the diagnosis of malfunctions; the overhaul, repair, and adjustment of units and parts such as pumps, compressors, valves, springs, and connections; and the repair of electric and pneumatic control systems.

Cooling (U.S.O.E. Code 17.0101)

Learning experiences specifically concerned with the installation, operation, testing, and troubleshooting of various types of air cooling equipment and of the controls needed for operation.

Heating (U.S.O.E. Code 17.0102)

Learning experiences specifically concerned with the installation, operation, testing, and troubleshooting of various types of heating equipment, including the controls needed for operation.

Ventilating (Filtering and Humidification) (U.S.O.E. Code 17.0103)

Learning experiences specifically concerned with the installation, operation, testing and troubleshooting of various air quality control equipment such as humidifiers, filters, fans, and related equipment.

Air Conditioning, Other (U.S.O.E. Code 17.0199)

Include here other specialized subject matter and learning experiences emphasized in air conditioning, refrigeration and heating which are not listed or classifiable above. (Specify.)

Appliance Repair (U.S.O.E. 17.02)

Classroom and shop experiences concerned with the theory of electrical circuitry, simple gearing, linkages, and lubrication in the operation, maintenance, and repair of components including relays, time switches, pumps, and agitators used in appliances such as washers, dryers, vacuum cleaners, toasters, water heaters, and stoves. Related training is provided in the use of familiar tools, test equipment, and service manuals, and in making cash estimates for repairs.

Electrical Appliances (U.S.O.E. Code 17.0201)

Learning experiences specifically concerned with the repair, installation, and servicing of electrical appliances.

Gas Appliances (U.S.O.E. Code 17.0202)

Learning experiences specifically concerned with the repair, installation, and servicing of gas appliances.

Existing State-approved courses are:

7543	Gas engine repair - small
7931	Welding
7921-22	Sheet metal (overlap with construction)
7885-86	Air conditioning and refrigeration
7732	Appliance repair service - residential
7712	Basic electricity

Physics students may wish to use some of the air conditioning and refrigeration training set-ups. Practical application of physical laws in fluids and electricity is engaging.

Estimated Cost:

$40,000 - 20 half-day students and 40 five-period students a year.

Location:

Statesville; it should be near academic classes and near cooperative training program employers.

Distributive Education

Although this applies to many of the new programs, the existing program is justified in its own right. It should continue as at present but may have fewer students. Students who would have formerly gone into distributive education will probably enter some other areas.

Business and Office Education Cluster

This "cluster" is one of the largest in the occupational education program and might be managed as a subdepartment.

Occupational Objectives:

Vocational entrant:

- Bookkeeper
- Teller, bank
- Machine operators, billing, bookkeeping, computing
- Payroll clerk
- Keypunch and coding equipment operator
- - - Keypunch operator
- - - Verifier operator
- - - Tabulating machine operator
- - - Sorting machine operator
- Duplicating machine operator
- File clerk, document and information retrieval
- Billing clerk
- Statistical clerk
- General office machine operator
- Typist, clerk typist
- - - General
- - - Statistical
- Receptionist
- Switchboard operator
- Library assistant
- Secretary
- Stenographer
- Stock and inventory clerk

Prevocational and Preprofessional:

- Entrepreneur
- Accountant
- Executive secretary
- Legal secretary
- Medical secretary
- Court reporter
- Programmer
- Systems analysts
- Statistician

Program Notes:

This program should be funded so that experience with equipment is broad and all students have opportunity to enroll. The data processing training should utilize facilities connected with the management of the school system and the County. The status of the secretary in today's business world should be explained in a convincing manner to parents and girls alike. Girls, previously bound for college, may wish to prepare for entrance into the business world. Cooperative training programs should be started in office occupations, and Distributive Education should be used as a capstone to some occupation programs in the senior year, such as in bookkeeping-banking (teller).

Statesville has the beginnings of an excellent "executive secretary" preparation program to train secretaries rather than clerk-typists. This type of program should be expanded. Increased attention should be given in other programs to information retrieval problems to prepare personnel to organize file systems and small libraries in conjunction with modern national library resources. The excellent libraries in the County could offer aid in this area.

For other occupational half-day students, the business courses might prepare students for running their own small business. Bookkeeping and small-business financing should be taught to those possessing service-oriented skills such as appliance repair. Business law might also be taught.

Estimated Cost:

Plant mostly exists

Location:

Each high school

Home Economics Cluster

Occupationally-oriented courses (those geared to gainful employment) are only beginning in Iredell County. The State has recognized courses in these areas:

714.9	Home Furnishing Service
714.2	Health and Management Services
714.5	Child Care Services
714.3	Food Services
714.4	Clothing Services

Program Notes:

Where a need has been established for workers in these areas, your consultants suggest creating a separate program in each area. It is our opinion that home economics should remain a cluster oriented to consumer education and parental and home maintenance skills. It should be pointed out that home maintenance skills can include avocational skills which can save or increase family income - such as the making of clothes. Units can be spent as five- to ten-period students in occupational programs as in child care.

The guidance of girls into vocations should be handled through Introduction to Vocations, not solely or predominantly through home economics. With a revision in the female role, home economics may be the last bastion of femininity in the curriculum. Therefore, the introductory course in home economics probably should not deal with the same topics as a course which would acquaint girls with occupational opportunities, since many previously male occupations are now open to women.

Estimated Cost:

Facilities exist

Location:

Each junior and senior high school

Other programs for future consideration in areas such as tailoring-cleaning, the hotel-motel industry, food preparation, transportation industry, and apparel industry, should be considered after the recommended courses have had some success.

Implementation of an Occupational Program

The major emphasis of the Iredell occupational program should be in the elementary and secondary years of education. In regard to post-high school education, the surrounding institutes and colleges offer adequate faculty and funding avenues. Effort should be made to have seniors eligible for evening or afternoon courses. Mitchell College may have its best role in science technology and business curriculum. No new construction is recommended. The Statesville adult education program is highly successful in using secondary facilities for extension courses of neighboring institutions. Any extension course should be operated under the jurisdiction of the director of occupational education, when that course produces individuals with job-entry skills. Of course, a general adult education coordinator is also needed; this position is already being served part time in Statesville.

The most important step in upgrading a vocational program is to appoint a Director of Occupational Education. In advance of instituting any changes in the existing program, this director should be employed. In consultation with local and state officials,

he should appoint an Occupational Advisory Committee* which should at least include representatives from industry, unions or trade associations, small service business, professionals, agri-business, practicing farmers (Farm Bureau, Grange, etc.), Agriculture Extension Service, Employment Security Commission, commerce, higher education, local-county government, and professional public school educators. The Advisory Committee may appoint ad hoc subcommittees to investigate employment potential and needed job skills in certain areas. Such ad hoc committees may actually suggest curricula and equipment needed for courses. The director and his advisory committee actually submit new course plans and project proposals to the State through the local board of education.

In conjunction with this first step, it is apparent that a consolidated program of occupational education makes sense. Separate advisory committees for the County, Statesville, and Mooresville would:

1. Waste advisory committee members' time
2. Lead to uncoordinated decision
3. Confound and introduce competition into training programs
4. Waste the director's energy

The second step in implementing the occupational program is to start with effective but less costly programs. At least, elect only one expensive program. The central facility might start out to be modular or campus plan rather than a large, permanent

*The State also suggests an additional, temporary group called The Planning Council, primarily comprised of professional personnel within the school systems who are concerned with occupational education. See the State's Handbook for Use in Planning Occupational Education Programs, pp. 7-8.

brick structure. The director should survey popular feeling in Iredell County and calculate what program would receive the most support by students, taxpayers, and employers.

It should be reemphasized that the program should serve students as well as employers. Job preparation should not be ruled out solely because that particular type of employer is not based in Iredell County. On the other hand, to educate an emigrating labor force exclusively is not good policy; support for one's program does not remain locally in many such instances. It should be kept in mind that the prevocational and preprofessional aspects in industrial and agricultural occupations are able to gain public backing without looking for return of graduates, just as does academic training.

Individual attention and guidance are hallmarks of a good vocational program. It is suggested that counselors experienced with skilled trades and industry be hired as soon as possible. Until finances allow counselors to be hired, the business community may be willing to participate in sponsoring a guidance staff to explain opportunities to youngsters. The Employment Security Commission in Statesville could coordinate and supplement this venture with battery tests, etc.

Summary and Implications for Consolidation

It has been suggested that the Occupational Education Program for Iredell County cover those courses formerly termed industrial arts, vocational education, home economics, and business education. The curriculum of the Occupation Program will serve several functions:

1. Increase student aptitude for a general area of employment.

2. Give guidance to students looking for a goal in the adult, occupationally-oriented world.

3. Provide specific skills and knowledge for a vocation or avocation.

4. Instill attitudes which bolster the self-image of a worker and create an appreciation for others and their roles in our technological society.

The elementary-through-secondary program should be coordinated (possibly through written agreement) with such 13th- and 14th-year institutions as Catawba Valley Technical Institute, Wilkes Community College, Mitchell College, Rowan Technical Institute, Central Piedmont Community College. Apprenticeship programs should also figure into curricular work. At present, apprenticeships are available in upholstery, sheet metal, auto mechanics, machines, and the construction industry.

The following programs have been suggested:

Introductory - all high schools

Agricultural cluster (comprehensive) - North Iredell

Landscaping only - South Iredell (itinerant)

Human services cluster - Unity, Mooresville, South Iredell

Textile cluster - centralized facility

Automotive industry - centralized facility

Machinist training and drafting - centralized facility

Drafting and design curriculum - all high schools

Topographical drafting and survey subcourse -
North Iredell, Mooresville

Landscaping design - South Iredell

Textile design - Mooresville

Construction trades cluster - all high schools
(North Iredell may give under Agricultural Construction)

Cabinetmaking, custom carpentry - all high schools
(smallest at Statesville)

Small appliance, heating, ventilation, air conditioning
service cluster - Statesville

Business and office education cluster - all high schools

Distributive education - all high schools

Home economics cluster - all high schools

It was recommended that the program begin slowly with the immediate appointment of a director, advisory committee, and possibly a planning council. The combined school districts (with or without consolidation) can apply for a State-subsidized director of occupational education. The advisory committee should be Countywide with linking agents to surrounding labor markets.

A consolidated occupational system for the County has many advantages over the fragmentized structure that exists today. Advantages are:

1. Director and advisory committee would be used efficiently and funded more economically.

2. Systems could easily cooperate to avoid overproduction.

3. Itinerant teachers (such as in landscaping) could be used by all systems.

4. A centralized facility could be built for all students in advanced work.

5. Students could have a broader selection of courses if choice of school were opened to occupational half-day students.

6. The best of talent can be used from all systems in curriculum development and training.

Consolidation of the entire school system would aid in the following ways:

1. Integration of occupational themes into lower grades and academic subjects would be better handled under common authority.

2. The occupational education opportunities to Mooresville and Statesville would be insured. In the foreseeable future, the County system could withdraw from a loose association and support its own director.

3. A shared occupational system leaves its director in an all-important position. It could develop into a separate "empire." If the academic and occupational teachers are under the same superintendent, coordination stands a better chance of materializing. This coordination would be fostered under a consolidated system.